

*New*  
PRODUCTS  
APPLICATIONS  
PROCESSES

# CHEMICAL EQUIPMENT PREVIEW

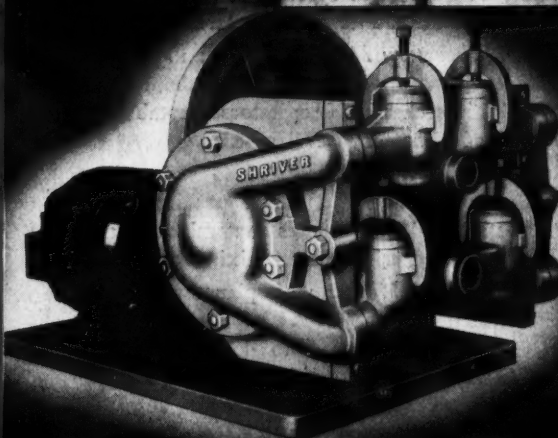
The Chemical Edition of  
EQUIPMENT PREVIEW

Over 29,000 Copies

CCA

NOVEMBER  
(November-December)  
1942

Latest Developments in Equipment  
Materials and Products for Engineers  
Chemists and Executives in  
Chemical Process Manufacturing



Synthetic rubber, like the  
natural product, sheeted on  
standard mill prior to further  
processing

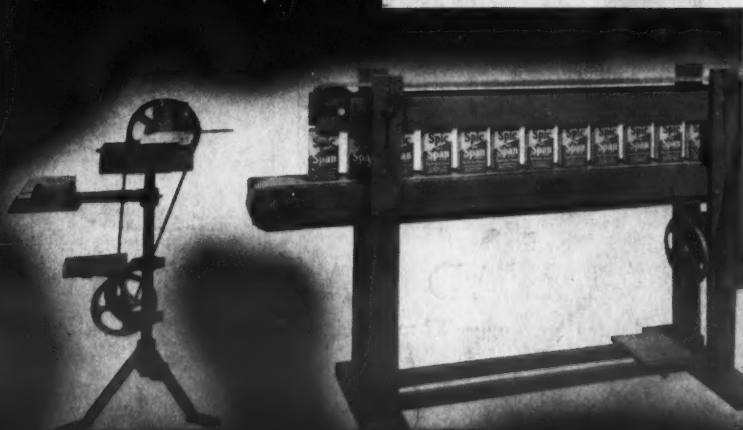
Diaphragm slurry pump has  
reversible feed-discharge,  
double acting pistons for pos-  
itive displacement

Transparent plastic head on  
feeder withstands hard  
knocks; full visibility and  
chemical resistance

Semi-automatic sealer for all  
sizes of cartons; no priorities  
required; low cost, flexible  
equipment



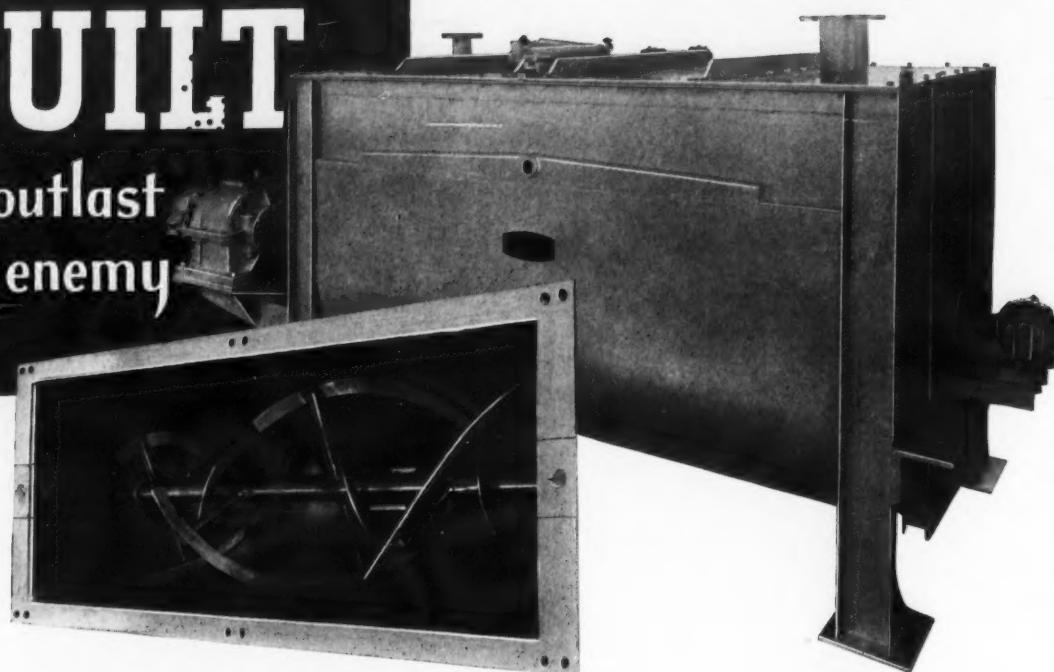
Metal spraying reclaims 36,000 lb. worn  
turbine shaft in 7 hours





# BUILT

to outlast  
the enemy



Yes! Built to outlast the enemy . . . the enemy of our vast production front—corrosion, waste and wear. Readco blenders and mixers with their individual engineering design and construction are helping speed both continuous and batch mixing of all types of vital war materials in the form of granular, dry and wet masses.

Mulling, ribbon, trowel or paddle agitators: bowls with or without jackets for temperature control: common metal or any commercial alloy: may be furnished to suit production requirements. Blender illustrated, 1860 gallons total capacity, weight 11,000 lbs.

Readco Material Handling Systems are responsible for the elimination of both waste and con-

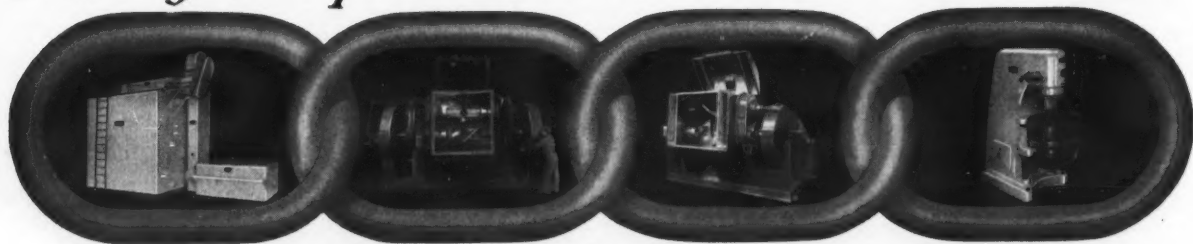
tamination. Complete systems are built to enable straight line handling of material.

Readco Laboratory Mixers of 1, 3 and 6 quart capacities can be dismantled easily without tools. Built with interchangeable agitators adaptable for all types of laboratory development.

Readco Vacuum Mixers of 2.5 to 400 gallons working capacities, with single packing gland construction which eliminates contamination and oxidation of material during mixing operation.

Readco Vertical Mixers with planetary mixing action which eliminates dead spots and accelerates mixing: capacities 5 to 400 quarts with multiple or variable speed drives. Furnished in common metal or any commercial alloy.

Part of the production chain... **READ**



## READ MACHINERY CO., INC., YORK, PA.

When inquiring specify CEP5505 . . . see information request blank, pgs. 2-3

## DIRECTORY . . .

of products in this issue

You will find listed below the names of products and new literature items described in this issue, with page reference on each.

Product	Page	Product	Page
A		F	
Abraser	30	Face Shields	39
Actuator Mechanism	67	Fastenings	73
Aggregate, Floor Surfacing	18	Feeder-Weighers	74
Agitators, Air Motored	42	Feeders, Chemical	72
Agitators, Impeller	11	Filter, Powder	39
Analyzers, Electrolytic	24	Filter Papers	34, 47
Aridifier	76	Filter Plate, Free Flow	22
Atomizer, Portable	53	Filter Presses	41, 86
B		Filter, Horizontal Plate	37
Bag Closer	80	Filter, Sealed Disc	37
Belts, Maintenance of Rubber	72	Filters	17, 42, 78
Bits, High Speed Tool	80	Fire Engine, Light Weight	49
Blanket, Air Raid	39	Fire Extinguisher Cabinet	49
Blowers, Centrifugal	40	Fittings, Corrosion-Resisting	49
Bobbins, Acetate Insulated	70	Flame Arrestors	51
Bolting Machine	50	Floor Resurfacer	74, 82
Boxes	51, 75	Flooring, Steel	27, 39
Breaker, Circuit	46	Fumigation, Tarpaulin	41
Breakers & Crushers, Coal	42	Furnace, Laboratory	34
Breather, Chemical Tank	49	G	
Bristles, Nylon Paint	14	Gaskets, Synthetic	40
Bucket, Elevator	70	Gauges	23
Buckets, Rehandling	66	Gauge, Tank	28
Butadiene 1:3, Storage of	9	Gears	28
C		Glass, Industrial	17
Cabinet, Sub-Zero Temp.	23	Glass, Laboratory	37
Cabinet, Temperature & Humidity Control	27, 32, 57	Gloves, Electricians	39
Cabinet, Testing	23, 27	Gloves, Neoprene	42
Cabinets, Wood Storage	77	Gloves, Rubberized Work	22
Cable, Heating	48	Glue, Liquid	21
Calculator, Crane Load	73	Grating, Steel	39
Capacitors	23	Grids, Non-Slip Oak	39
Cartridge, Respirator	53	Grills, Registers	42
Caster, Resinoid	62	Grinders	44, 82
Castings, Corrosion-Resisting	69	Grinders, Slitter Wheel	78
Cellulose Fabric	21	Grinding Wheels	39, 61
Cement, Acid-Proof	18	H	
Centrifugals	35	Hair Net, Safety	47
Chains, Conveyor	43, 79	Hammermills, Non-clog	31
Chains, Roller	40	Hammers, Pulverizer & Mill	39
Chemical Equipment, Acid-proof	19	Handling, Overhead	71, 72
Chemical Progress Book	23	Heat Exchanger	34, 69
Cleaner, Alkali Aluminum	22	Heat Transfer Data Book	35
Cleaner, Brass-Copper	7	Heat Units, Electric	31
Clock, Automatic Stop	27	Heater, Compound	50
Clock, Contact Making	28	Heater, Instant Water	51
Clothing, Protective	43, 58	Heaters, Air	66
CO <sub>2</sub> Analyzer	26	Heaters, Cast Iron Grid	46, 72
Coating, Plastic Cork	20	Heaters, Direct Fired	78
Coating, Protective	18, 21	Hotel Fort Shelby	38
Coke Oven Heating	41	Hotel Fountain Square	40
Color Test Device	32	Humidifiers, Steam-type	37
Communicating System	71, 77	Humidity Control	6
Comparator, Slide	33	I	
Compressor, Gas-Driven	36	Infra-Red Baking	6, 37
Compressors, Air	42	Instruments Catalog	43
Container, Cellophane	7	Instruments	25, 26, 28
Controller, Reversing Drum	30	Insulating Board, Glass	41
Controls, Heating	24, 32	Insulation	20, 21
Controls, Humidity	54	K	
Controls, Pressure	25	Kettle, Mixer-Type	58
Controls, Temperature	9, 25, 32, 33	L	
Conveyor, Elevator	52	Laboratory Equipment	30, 52
Conveyor, Portable	49	Ladder, Safety	46
Conveyors	6	Ladder Shoes	46
Conveyors, Screw	46	Lamp, Blackout	43
Coolers, Transformer	78	Lamps, Infra-red Drying	59
Cosmetics Manual	23	Lathes	36, 47, 59
Counter Current Classifier	59	Lighting Equipment	37, 38, 40, 43, 63, 74
Couplings, Flexible	55	Linings, Acid-proof Tank	34
Couplings, Tube & Pipe	78	Lining, Catalog on Rubber	33
Cover, Rubber Press Roll	16	Liquid Level Control	23, 51
Crushers	54	Lubrication, Centralized	73, 75
Curing Compound, Concrete	22	M	
D		Maintenance Materials	40
Dehydrators	12, 48	Manometers	30, 54
Density Recorders	29	Masking, Welding	39
Doors, Wood Rolling	68	Masks, Dust	39
Drive, Adjustable Speed	66	Marking Devices, Metal	44
Drums, Agitator	9	Material Handling	11
Dryer, Safety Appliance	66	Metallizing	39
Dryers	34, 46, 48, 54, 66, 79	Meter, Steam Shunt	67
Dust Arrestors, Oval Bag	64	Mills, Colloid	81
Dust Collectors	37, 38, 46, 49, 60	Mills, Pebble & Ball	44, 70
E		Mixers	2, 10, 39, 44, 54, 63, 85
Ejectors, Steam-Jet	43	Motors, Dust-proof	52
Emulsifier	34	N	
Equipment, Safety	43	Nitrogen-Determination	35
Etcher, Portable Metal	69	Nozzles, Spray	34, 39, 59
Etching, Arc-Electric	49	Nuts, Chart on Stop	40
Exchanger, Plate Heat	69	O	
Extinguisher, CO <sub>2</sub> Fire	36	Orifice Computer	39
Extinguishers, Chemical Fire	18	Ovens & Dryers	46
Eye Loop, Binocular	55	Ovens, Industrial	41

(Continued on page 83)



## Check Below, For More Product Information

EVERY PRODUCT DESCRIBED IN THIS ISSUE IS LISTED BELOW . . . Check the items that interest you, as many as interest you. Mail to publisher . . . information comes to you direct, without obligation.

If you wish

MORE PRODUCT INFORMATION  
Check products which interest you, mail to us.

Key	Product	Key	Product	Key	Product	Key	Product
5505	Mixing Equipment	5562	Welding Masking Compound	5621	Electric Heat Units	5679	Flocculating Mixers
5506	Industrial Trucks	5563	Face Masks for Dust	5622	Laboratory Equipment	5680	Centrifugal Blowers
5507	Thermocouples	5564	Pipe Joint Compound	5623	Temperature & Humidity Control Cabinet	5681	Fluorescent Fixtures
5508	Conveyors	5565	Protective Coating	5624	Timers	5682	Concrete Pumps
5509	Humidity Control Systems	5566	Cellulose Fabric	5625	Temperature Control Catalog	5683	Vibrating Screens
5510	Infra-Red Baking for Motors	5567	Liquid Glue	5626	Overheating Control	5684	Stop Nut Data Chart
5511	Cellophane Container	5568	Plasticizer	5627	Thermometers	5685	Heavy Duty Butterfly Valve
5512	Brass-Copper Cleaner	5569	Skin Creams & Liquids	5628	Accelerated Fading Unit	5686	Wiring Guide and Catalog
5513	Worm Gear Speed Reducers	5570	Plastic Insulation	5629	Temperature Controls	5687	Roller Chains
5514	Recovering Zinc-Oxide in Brass Foundry	5571	Free-Flow Filter Plate	5630	Slide Comparator	5688	Synthetic Gaskets
5515	Processing Equipment	5572	Steel Flooring	5631	Mercury Relay	5689	Hand & Motor Winches
5516	Temperature Controls	5573	Alkali Aluminum Cleaner	5632a	Nitrogen Determination	5690a	Filter Press
5517	Butadiene 1:3 Storage	5574	Concrete Curing Compound	5632b	Protein Determination	5690b	Thickener
5518	Steam Traps	5575	Rubberized Work Gloves	5633	Non-clog Hammermills	5690c	Diaphragm Pump
5519	Agitator Drums	5576	Stainless Steel Valves	5634	Heavy-Duty Manometer	5691	Steel Strapping
5520	Centrifugal Pumps	5577	Capacitors	5635	Moisture Tester	5692	Instructions on Welding
5521	Mixers	5578	Sub-Zero Temp. Control	5636	Compact Emulsifier Unit	5693	Glass Insulating Board
5522	Hand Pump	5579	Chemical-Proof Paint	5637	Starter Acceleration Control	5694	Coke Oven Heating
5523	Industrial Trucks	5580	Chemical Progress Book	5638	Spray Nozzles	5695	Industrial Ovens
5524	Metal Spraying Equipment	5581	Cosmetics Manual	5639	Dryer	5696	Floor Trucks
5525	Simplified Way to Make Die Strippers	5582	No-Drip Sulphur Tapers	5640	Industrial Truck Care	5697	Filters
5526	Impeller Agitators	5583	Liquid Level Control	5641	Heat Exchanger	5698	Air-Motor Agitators
5527	HydroElectric Lift Trucks	5584	Gauges	5642	Filter Papers	5699	Special Steels Handbook
5528	Spray Type Dehydrator	5585	Electrolytic Analyzers	5643	Adjustable Pitch Sheaves	5700	Grills, Registers Catalog
5529	Welding Control Stations	5586	Water Test Equipment	5644	Rubber Conservation Booklet	5701	Coal Breakers & Crushers
5530	Semi-Automatic Carton Sealer	5587	Rectangular Contact Rheostat	5645	Heat Transfer Data Book	5702	Safety Manual for Women
5531	Rubber Lining Catalog	5588	Heating System Control	5646	Metal Stamping Dies & Tools	5703	Steam Traps
5532	Care of V-Belts	5589	Explosion-Proof timer	5647	Centrifugals	5704	Air Compressors
5533	Gyrating Screens	5590	Laboratory Supplies Booklet	5648	Laboratory Furnace	5705	Industrial Trucks
5534	Processing Equipment	5591	Pressure-Temperature Control	5649	High Speed Sifters	5706	Steam Jet Ejectors
5535	Acid-Proof Tank Linings	5592	Colorimetric pH Test Set	5650	Strainers for Pumps	5707	Welder's Protective Clothing
5536	Nylon Paint Brush Bristles	5593	Heat Transfer Tubing	5651	Low Temperature Welding	5708	Use of Maintenance Materials
5537	Portable Ventilator-Exhauster	5594	Test Instruments	5652	Lathes	5709	Conveyor Chains
5538	Electric Sifter	5595	CO <sub>2</sub> Analyzer	5653	Manganese Steel Wheels	5710	Safety Equipment
5539	Scales	5596	pH Control	5654	CO <sub>2</sub> Fire Extinguisher	5711	Power Plant Equipment
5540	Diaphragm Slurry Pump	5597	Water Stills	5655	Direct Fired Heaters	5712	Scales
5541	Pressure Reducing Valve	5598	Temperature Recorder	5656	Wire Cloth	5713a	Pebble & Ball Mills
5542	Rubber Press Roll Cover	5599	Temp. & Humidity Control	5657	Gas-Driven Compressors	5713b	Turbine Sifters
5543	Vibrating Equipment	5600	Electronic Short Period Timer	5658	Industrial Glass	5713c	Mixers
5544	Chemical Porcelain	5601	Instrument Testing Cabinet	5659	Dust Collectors	5713d	Grinders
5545	Sacking Scale	5602	Automatic Stop Clock	5660	Gas Powered Lift Trucks	5714	Sweeping Machine
5546	Filters	5603	Laboratory Glassware	5661	Near Infra-Red Drying Process	5715	Redwood Tanks Bulletin
5547	Heavy Duty Crane Truck	5604	Spectrophotometer	5662	Fluorescent Light Fixtures	5716	Lighting Equipment
5548	Gears	5605	Contact (Impulse Timer) Clock	5663	Steam Type Humidifiers	5717	Dust Collectors
5549	Non-Moistening Stickers	5606	Special Instruments	5664	Diaphragm Slurry Pump	5718	Screw Conveyors
5550	Floor Surfacing Aggregate	5607	Tank Gauges	5665	Explosion-Proof Lighting	5719	Circuit Breaker
5551	Terpene Solvents	5608	Density Recorders	5666	Made to Order Plastic Parts	5720	Chemical Dryers
5552	Acid-Proof Cement	5609	Automatic Starters	5667	Sifting Machines	5721	Grid Unit Heaters
5553	Extinguishing Chemical	5610	Gas-Oil Orifice Computer	5668	Screw Threading in Lathe	5722	Vacuum and Pressure Pumps
5554	Fires	5611	Valve-Regulator Catalog	5669	Gate Valve Repair Bulletin	5723	Impulse Steam Trap
5555	Protective Coating	5612	Laboratory Furniture	5670	Pipe Tools	5724	Wood and Steel Pallet
5556	Laminated Plastic	5613	Thermometers	5671	Dust Collector	5725	Filter Papers
5557	Synthetic Rubber Book	5614	Reversing Drum Controller	5672	Spray Nozzles	5726	Horizontal Plate Filter
5558	New VMCH Vinylite Resin	5615	Abraser	5673	Steel Grating	5727	Turret Lathes
5559	Acid-Proof Chemical Equipment	5616	Manometers	5674	Air Raid Safety Blanket	5728	Heating Cable
5560	Block Insulation	5617	Rheostats	5675	Hydraulic Lift Trucks	5729	Wire Cloth
5561	Plastic Cork Coating	5618	Liquid Level Control	5676	Grinding Wheel Catalog	5730	Dryers
5562	Exterior Waterproofing	5619	Portable Crest Voltmeter	5677	Electricians' Gloves	5731	Silica Gel Dehydrators
		5620	Pressure Gauge Tester			5732	Portable Conveyor
						5733	High Vacuum Pumps



# If You Wish More Information On Products--

November-December, 1962

See Reverse Side of this Sheet --- Be Sure To Give Your Address

(Listing of products continued)

✓ Key	Product	✓ Key	Product	✓ Key	Product	✓ Key	Product
<input type="checkbox"/> 5734	Arc-Electric Etching	<input type="checkbox"/> 5773	Pressure Regulator	<input type="checkbox"/> 5810	Chemical Porcelain	<input type="checkbox"/> 5848	Lighting Unit
<input type="checkbox"/> 5735	Chemical Tank Breather	<input type="checkbox"/> 5774	Classifying, Sizing Units	<input type="checkbox"/> 5811	Actuator Mechanism	<input type="checkbox"/> 5849	Feeder Machines
<input type="checkbox"/> 5736	Bag-Type Dust Collectors	<input type="checkbox"/> 5775a	Face Shields	<input type="checkbox"/> 5812	Safety Hair Net	<input type="checkbox"/> 5850	Wirebound Boxes
<input type="checkbox"/> 5737	Spray Nozzles	<input type="checkbox"/> 5775b	Respirators	<input type="checkbox"/> 5813	Flexible Rubber Pipe	<input type="checkbox"/> 5851	Midget Pumps
<input type="checkbox"/> 5738	Compound Heater	<input type="checkbox"/> 5776	Floor Type Turret Lathe	<input type="checkbox"/> 5814	Fire Extinguisher Cabinet	<input type="checkbox"/> 5852	Hand-Electric Lift Trucks
<input type="checkbox"/> 5739	Electric-Hydraulic Pump	<input type="checkbox"/> 5777	Non-slip Oak Grids	<input type="checkbox"/> 5815	Processing Equipment	<input type="checkbox"/> 5853	A. C. Welder
<input type="checkbox"/> 5740	Bolting Machine	<input type="checkbox"/> 5778a	Heavy-Duty Sewing Head	<input type="checkbox"/> 5816a	Transparent Reagent Heads	<input type="checkbox"/> 5854	Centralized Lubrication
<input type="checkbox"/> 5741	Wood Sole Safety Shoes	<input type="checkbox"/> 5778b	Powder Filler	<input type="checkbox"/> 5816b	Water Purification Units	<input type="checkbox"/> 5855	Aridifier
<input type="checkbox"/> 5742	Carton Stitcher	<input type="checkbox"/> 5779	Dust Collectors	<input type="checkbox"/> 5817	Step-Valve Pumps	<input type="checkbox"/> 5856	Butterfly Valves
<input type="checkbox"/> 5743	Instant Water Heater	<input type="checkbox"/> 5780	Liquid Vibrating Screen	<input type="checkbox"/> 5818	Wood Rolling Doors	<input type="checkbox"/> 5857	Variable Delivery Pump
<input type="checkbox"/> 5744	Stratosphere Chamber	<input type="checkbox"/> 5781	Magnetic Log Washer	<input type="checkbox"/> 5819	Processing Equipment	<input type="checkbox"/> 5858	Pulverizer
<input type="checkbox"/> 5745	How to Use Corrugated Boxes	<input type="checkbox"/> 5782	Rolls	<input type="checkbox"/> 5820a	Corrosion-Resisting Castings	<input type="checkbox"/> 5859	Vacuum Pumps
<input type="checkbox"/> 5746	Storage Tank Flame Arrestor	<input type="checkbox"/> 5783	Stainless-Clad Steel	<input type="checkbox"/> 5820b	Corrosion-Resisting Fittings	<input type="checkbox"/> 5860	Communicating System
<input type="checkbox"/> 5747	Elevator Conveyor	<input type="checkbox"/> 5784	Tarpaulin Fumigation	<input type="checkbox"/> 5820c	Corrosion-Resisting Valves	<input type="checkbox"/> 5861	Wood Storage Cabinets
<input type="checkbox"/> 5748	Stainless-Clad Steel	<input type="checkbox"/> 5785	Portable Grinding Wheels	<input type="checkbox"/> 5821	Wide Range Metal Etcher	<input type="checkbox"/> 5862a	Slitters & Rewinders
<input type="checkbox"/> 5749	Infra-Red Lamps for Drying	<input type="checkbox"/> 5786	Pipe Tools	<input type="checkbox"/> 5822	Light Weight Fire Engine	<input type="checkbox"/> 5862b	Slitter Wheel Grinders
<input type="checkbox"/> 5750	Motors for Use in Metal Dust	<input type="checkbox"/> 5787	Neoprene Gloves	<input type="checkbox"/> 5823	Plate Heat Exchanger	<input type="checkbox"/> 5862c	Uniform Tension Unwinders
<input type="checkbox"/> 5751	Sprocket Wheels	<input type="checkbox"/> 5788	Carton Sealer	<input type="checkbox"/> 5824	Centrifugal Air Separators	<input type="checkbox"/> 5863	Transformer Cooling Units
<input type="checkbox"/> 5752	70-Hour Cartridge Respirator	<input type="checkbox"/> 5789	Resinoid Wheels & Casters	<input type="checkbox"/> 5825	All-Wood Toilet Compartments	<input type="checkbox"/> 5864	Hotel Fort Shelby
<input type="checkbox"/> 5753	Portable Metal Atomizer	<input type="checkbox"/> 5790	Metallic Pump Packing	<input type="checkbox"/> 5826	Acetate Insulated Coil	<input type="checkbox"/> 5865	Tube & Pipe Couplings
<input type="checkbox"/> 5754	V-Belts	<input type="checkbox"/> 5791	Water-Oil Separator	<input type="checkbox"/> 5827	Bobbins	<input type="checkbox"/> 5866	Sanitary Pumps
<input type="checkbox"/> 5755	Crushers	<input type="checkbox"/> 5792	Liquid Rotary Pumps	<input type="checkbox"/> 5828	Elevator Buckets	<input type="checkbox"/> 5867	Conveyor Chains
<input type="checkbox"/> 5756	Rotary Dryers	<input type="checkbox"/> 5793	Industrial Trucks	<input type="checkbox"/> 5829	Ball & Pebble Mills	<input type="checkbox"/> 5868	Indirect Dryer
<input type="checkbox"/> 5757	Strainer-Metal Cutting Coolant	<input type="checkbox"/> 5794	Blackout Lamp	<input type="checkbox"/> 5830	Valves	<input type="checkbox"/> 5869	Crane & Carrier Truck
<input type="checkbox"/> 5758	Mixer	<input type="checkbox"/> 5795	Fluorescent Wood Reflector	<input type="checkbox"/> 5831	Communicating System	<input type="checkbox"/> 5870	Electrical Precipitator
<input type="checkbox"/> 5759	Humidity Controllers	<input type="checkbox"/> 5796a	Gyrating Screens	<input type="checkbox"/> 5832	Wet Strength Paper	<input type="checkbox"/> 5871	Solvent Recovery Still
<input type="checkbox"/> 5760	Flexible Couplings	<input type="checkbox"/> 5796b	Pony & Heavy Duty Mixers	<input type="checkbox"/> 5833	Finger Guard	<input type="checkbox"/> 5872	Filter Presses
<input type="checkbox"/> 5761	Sealed Disc Filter	<input type="checkbox"/> 5797	Material Handling Equipment	<input type="checkbox"/> 5834	Overhead Handling System	<input type="checkbox"/> 5873	Fountain Square Hotel
<input type="checkbox"/> 5762	Binocular Eye Loop	<input type="checkbox"/> 5798	Oval Bag Dust Arrestors	<input type="checkbox"/> 5835	Chemical Feeders	<input type="checkbox"/> 5874	High Speed Tool Bits
<input type="checkbox"/> 5763	Mill & Pulverizer Hammers	<input type="checkbox"/> 5799	Swivels for Air, Oil Lines	<input type="checkbox"/> 5836	Industrial Trucks	<input type="checkbox"/> 5875	Portable Barrel Pump
<input type="checkbox"/> 5764	Pump Book	<input type="checkbox"/> 5800	Diaphragm Pump	<input type="checkbox"/> 5837	Sand Blast Machine	<input type="checkbox"/> 5876	Bag Closer
<input type="checkbox"/> 5765	Processing Equipment	<input type="checkbox"/> 5801	Instruments Catalog	<input type="checkbox"/> 5838	Cast Iron Grid Heaters	<input type="checkbox"/> 5877	Platform Trucks
<input type="checkbox"/> 5766	Stainless Steel	<input type="checkbox"/> 5802	Care of Stainless Steel	<input type="checkbox"/> 5839	Rubber Belt Maintenance	<input type="checkbox"/> 5878	Colloid Mills
<input type="checkbox"/> 5767	Temperature & Humidity Control Cabinets	<input type="checkbox"/> 5803	V-Belts	<input type="checkbox"/> 5840	Overhead Handling System	<input type="checkbox"/> 5879	Magnetic Separator
<input type="checkbox"/> 5768	Liquid Screens	<input type="checkbox"/> 5804	Adjustable Speed Drive	<input type="checkbox"/> 5841	Centralized Lubrication	<input type="checkbox"/> 5880	Cement-Wood Floor Resurfacer
<input type="checkbox"/> 5769	Gate Valves	<input type="checkbox"/> 5805a	Air Heaters	<input type="checkbox"/> 5842	Plastic Pump	<input type="checkbox"/> 5881	Pumps for Liquids, Foods
<input type="checkbox"/> 5770	Mixer-Type Kettle	<input type="checkbox"/> 5805b	Ovens & Dryers	<input type="checkbox"/> 5843	Crane Load Finder	<input type="checkbox"/> 5882	Grinders
<input type="checkbox"/> 5771	Adjustable Wood Shelving	<input type="checkbox"/> 5806	Safety Appliances Drier	<input type="checkbox"/> 5844	Using Skids for Storage	<input type="checkbox"/> 5883	Synthetic Pipe
<input type="checkbox"/> 5772	Protective Clothing	<input type="checkbox"/> 5807	Ladders & Ladder Shoes	<input type="checkbox"/> 5845	Bolts, Nuts, Accessories	<input type="checkbox"/> 5884	Portable Mixer
		<input type="checkbox"/> 5808	Rehandling Buckets	<input type="checkbox"/> 5846	Acid-Handling Pump	<input type="checkbox"/> 4th	
		<input type="checkbox"/> 5809	Steam Shunt Meters	<input type="checkbox"/> 5847	Floor Resurfacer	<input type="checkbox"/>	Cover Processing Equipment
				<input type="checkbox"/>	Extinguisher Thumb Spray	<input type="checkbox"/>	

Please send information requested to:

Name ..... Title .....  
 Firm ..... (Please give the firm name)  
 Street Address .....  
 City and State .....

Mail to CHEMICAL EQUIPMENT PREVIEW, 737 N. Michigan Ave., Chicago



# LATEST DEVELOPMENTS IN EQUIPMENT, MATERIALS AND PRODUCTS FOR ENGINEERS, CHEMISTS AND EXECUTIVES IN CHEMICAL PROCESS MANUFACTURING

*Over 28,000 Circulation  
in These Chemical  
Process Plants*

## CCA

- Brewers, Distillers
- Cellulose
- Cement, Lime
- Ceramics
- Chemicals
- Drugs, Cosmetics
- Fertilizers
- Food Products
- Leather
- Metallurgical
- Paints, Varnishes
- Paper, Pulp
- Petroleum Refining
- Plastics
- Rubber
- Soap
- ... and allied lines

## PUTMAN PUBLISHING COMPANY

737 N. Michigan Ave., Chicago, Illinois  
WHitehall 5977

### NEW YORK CITY

KENNETH S. KAULL  
60 East 42nd Street  
Vanderbilt 6-5160

### CHICAGO

CARROLL H. THOMAS  
737 N. Michigan Ave.  
WHitehall 5977

### CLEVELAND

WM. E. COATES  
Detroit—Warren Rd. Bldg.  
Academy 6077

### CLEVELAND

HARRIS N. PICKETT  
801 Caxton Building  
Main 3341

### LOS ANGELES

J. H. TINKHAM  
1406 S. Grand Ave.  
Richmond 6191

Technical Editor ..... PROF. H. McCORMACK

Assistant Publisher ..... A. W. B. LAFFEY

Vice President ..... EWING W. GRAHAM

President and Publisher ..... RUSSELL L. PUTMAN

## CHEMICAL EQUIPMENT PREVIEW

VOLUME 5, NUMBER 6

NOVEMBER-DECEMBER, 1942

## What's in This Issue

	Page
New Solutions of Plant Problems . . . A Department	6
New Materials . . . A Department	18
New Instruments of Control . . . A Department	24
New Literature . . . New Booklets, Catalogs, etc., pertaining to products and their uses . . . A Department	34
Directory of All Products in This Issue	2-83
How to Get This Publication Regularly	82-83
To Get More Information on Products in This Issue	2-83
New Ideas . . . A Department	44
Advertisers in This Issue	81

## How to Use This Issue

If you are particularly interested in some specific type of product . . . turn first to the Directory of All Products in This Issue. You'll find it on pages 2 and 83. Here is an alphabetical listing of every product . . . whether it is featured editorially or in the advertising.

Then, to make sure you keep abreast of the latest developments . . . perhaps in something you have heard nothing about . . . you'll want to browse through the rest of the of the pages.

The Editors have searched far and wide to bring you this most comprehensive Preview of all kinds of product developments of help to you in your Chemical Process manufacturing work. Thus, they save your time . . . enable you to keep posted with the minimum of effort. And when you find an item that interests you particularly . . . and you'd like more information on it . . . here too the publishers will help you. Just turn to the handy information request slip . . . between pages 2 and 3. All you need to do is check the item that interests you, fill in your name and address and send this slip to the publishers. The information you desire will come to you promptly.

And don't forget . . . when you have finished with this issue, pass it on to your associates. They'll be interested too.

## If You Wish to Receive This Magazine Regularly

Subscriptions to this magazine are NOT SOLD.

But its circulation is restricted to men who are actively engaged, in responsible capacities, in chemical process manufacturing plants.

You can receive it free of charge . . . simply by sending your request to the publishers and telling them of your connection in your

chemical process plant . . . if you are a chemist, engineer or executive.

Between pages 82 and 83 of this issue you will find a convenient request form which you can use. Fill in your name and company connection and send this to the publishers. Your request subscription will start with the next issue. There is no charge or obligation for this service.



## "That's Interesting"

"Weigh your words," is an admonition that can really be taken literally now. Scales used to weigh filament wire in Westinghouse Mazda lamps are so sensitive that they weigh ordinary writing.

★

The human eye continues to see objects for as much as a tenth of a second after they have actually passed out of range. This due to a quality called visual persistence — just another remarkable characteristic of our faculty of sight.

★

**Why are they called Jeeps?** The origin of the name seems to be in question. Some like to attribute it to the supernatural character in a popular comic strip. One of the most popular and logical explanations is that the first ones delivered to the Army for service were lettered G. P., perhaps meaning general purpose, and the nickname was a natural result.

★

**Blotting paper** is said to have been an accidental discovery resulting from the neglect of a workman in an English paper mill to put sizing in a batch of paper. The absorbent properties of this particular lot were at once apparent and thereafter blotters quickly supplanted the traditional sand.

★

**Wooden manhole covers** have already met the requirements of one eastern city and their use will permit resumption of sewer jobs that have been delayed by restrictions on iron covers. The wood type costs about \$15, just half the cost of iron.

★

The  $2\frac{1}{2}$  lbs. per week for each of us — our present voluntary meat ration — is 6 ounces less than the combined weekly allowance per person in the United Kingdom, Germany, Belgium and Italy according to the O. P. A. weekly bulletin "Victory."

★

**Whales that carry radios** are not a fantasy of Walt Disney. A whaling company places automatic radio transmitters on floating carcasses to send out signals so they may be easily located when it is desired to haul them aboard.

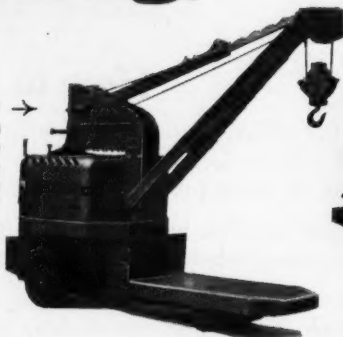
★

The long and hardy life of the Redwood does not seem to be limited to its growing state. Used structurally its continued durability is such that tanks made of it are still giving service after 75 years.

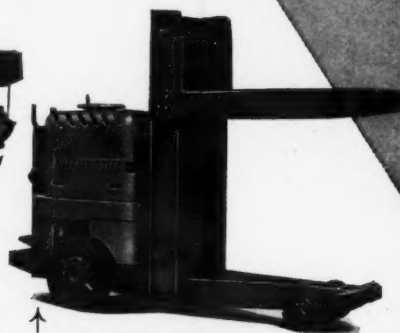
For more information on product at right, specify CEP 5506 . . . . see information request blank between pages 2-3.



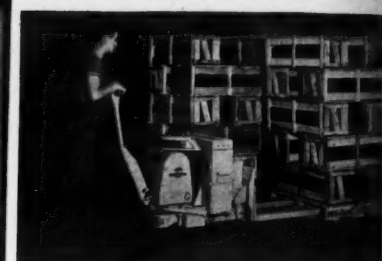
Model "TLN-2" 4000 Pound Capacity High Lift Tiering Platform Truck for Skid Transportation and Stacking. Standard Platform is 55" Long, 26" Wide, 10 $\frac{1}{4}$ " High with 60" to 72" Lift.



Model "LN-3" Standard 6000 Pound Capacity Low Lift Truck Equipped with Manual Operated Boom and Motorized Crane attachment. Capacity 2000 Pounds at 42" Outreach.



Model "TLN-3" 6000 Pound Capacity High Lift Tiering Platform Truck for Skid Transportation and Stacking. Standard Platform is 55" Long, 27" Wide, 10 $\frac{1}{4}$ " High with 60" to 72" Lift.



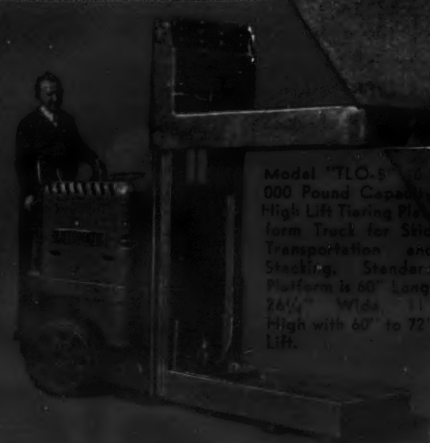
Model "P-427" Pallet Type 4000 Pound Capacity "TRANSPORTER" Fork Type Lift Truck. Standard Established Fork Lengths Are Minimum 30" to 60" Maximum in 2" Steps. Standard Fork Height in Low Position is 33 $\frac{3}{8}$ ". Lifting Height from Low to High Position is 3 $\frac{3}{4}$ " (Get P-427 Bulletin for Full Details).



Model "CHIF-2" Center Control Light Duty 2000 Pound Capacity Telescopic Tilt Tiering Fork Lift Truck for Unit Loads on Pallets or Skid Platform. Standard Forks Up to 36" Long Telescopic Lift Up to 110".



Model "THIF-L-4" Center Control 4000 Pound Capacity Telescopic Tilt Tiering Fork Lift Truck for Unit Loads on Pallets or Skid Platforms Standard Forks Up to 36" Long Telescopic Lift Up to 110".



Model "TLO-5" 4000 Pound Capacity High Lift Tiering Platform Truck for Skid Transportation and Stacking. Standard Platform is 60" Long, 26 $\frac{1}{2}$ " Wide, 10 $\frac{1}{4}$ " High with 60" to 72" Lift.

MANUFACTURERS FOR OVER 35 YEARS  
"Electric Propelled" INDUSTRIAL LIFT TRUCKS



## WAYS TO CARRY AND SPECIAL MATERIALS

Let the "AUTOMATIC" representative supply you with full details and show you how the standard approved models can be efficiently applied to your present material handling problems and still be highly efficient for post war production work.

"AUTOMATIC" representatives are listed in the classified telephone directories in the principal cities and industrial areas under "TRUCKS INDUSTRIAL."

### LIFT TRUCKS



Model "TN-4 and TW-4" 4000 Pound Capacity and Model "TN-6 and TW-6" 6000 Pound Capacity "TRANSPORTER" Platform Type Lift Trucks for Skid Platforms — Standard Platform Lengths 36" to 72" in 12" Steps. Widths 20" and 26½"; Heights in Low Position 6"; 7"; 9"; 11"; (For Full Details Get "TRANSPORTER" Platform Bulletin).



Model "LN-2" 4000 Pound Capacity Low Lift Elevating Platform Truck for Skid Transportation. Standard Platform Is 55" Long, 26" Wide, 10¼" High with 6" Lift.

Model "LO-5" 10,000 Pound Capacity Low Lift Elevating Platform Truck for Skid Transportation. Standard Platform Is 60" Long, 26" Wide, 11" High with 5" Lift.



Model "LN-3" 6000 Pound Capacity Low Lift Elevating Platform Truck for Skid Transportation. Standard Platform Is 55" Long, 27" Wide, 10¼" High with 6" Lift.

Model "TET-7" Rear Control 7000 Pound Capacity Telescopic Tipping Taring Fork Lift Truck for Unit Loads on Pallets or Skid Platforms. Standard Forks Up to 36" Long. Telescopic Lift Up to 117".

NOTE—Some "AUTOMATIC" approved models can be furnished with specifications meeting "Industrial Truck Association Spark-Enclosed Equipment" for operation in hazardous dust or vapor atmosphere such as in arsenals, ammunition depots and ordnance or chemical warfare plants. These are models "LN-2", "TN-2", "TN-4-L", "TN-6-L" and "TRANSPORTER" platform and pallet type lift trucks.



Model "TET-4-L" Center Control 4000 Pound Capacity Telescopic Tipping Taring Fork Lift Truck for Unit Loads on Pallets or Skid Platforms. Standard Forks Up to 36" Long. Telescopic Lift up to 117".



Model "TET-14-10" Heavy Duty Center Control 10,000 Pound Capacity Telescopic and Non-Telescopic Tipping Taring Fork Lift Truck for Unit Loads on Pallets or Skid Platforms. Standard Forks Up to 36" Long. Telescopic Lift Up to 98".



## "That's Interesting"

To relieve the brass shortage Canadian authorities have ruled out brass for military buckles, buttons and hat badges. The savings will be enough to make thousands of cartridge cases. Once again plastics come to the rescue and provide a strong and beautiful substitute.

Moth balls rendered effective service in gardens as well as in woolen garments last summer. City folk on vacation who notice this practice favored by many gardeners usually think it an accident and sometimes still remain skeptical when they are told that the moth balls are scattered about to keep rabbits away from lettuce and other vegetables.

Sometimes strange uses are found for materials developed for an entirely different purpose. The Ohmite News tells how Ammonium Sulfamate, flame proofing agent for cloth, paper and insulating materials has been found to be a good herbicidal chemical.

Bees produce their honey in many varieties differing radically in color and flavor. In California, for example, there are at least twenty varieties distributed commercially.

Sea dogs are really playing a part in this war. British patrol ships carry dogs that are not only good mascots but have been trained to detect the approach of airplanes.

Among the most difficult of all leathers to tan are those made from the hides of the elephant, hippopotamus and rhinoceros.

In the interest of improved and increased dehydration of vegetables to supply war needs, the U. S. Department of Agriculture is planning two schools for training commercial dehydrators. Schools will be held at the Department's laboratory at Albany, Cal. and at a large cannery at Rochester, N. Y.

The daily dose of cod liver oil usually fed to chickens may, in some cases, have to be abandoned because of war shortages. Vitamin D requirements can still be supplied however, by use of portable sunlamps developed especially for animals by Westinghouse lamp engineers.

A strand of wire reaching from New York to Montreal, a distance of 469 miles, can be produced from a rod of tungsten five and one half feet long, having a diameter slightly larger than that of a lead pencil. Such wire is used by Westinghouse in making 3-watt lamps.

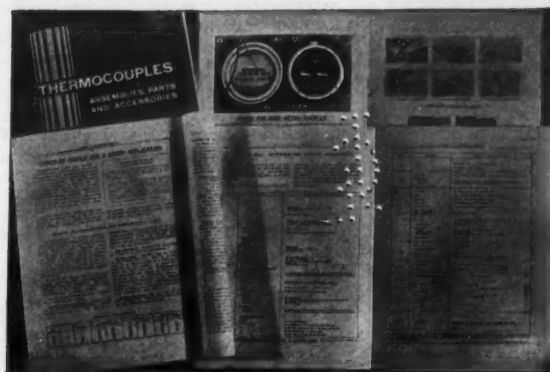
# AUTOMATIC TRANSPORTATION CO.

DIV. OF THE YALE & TOWNE MFG. CO.

119 WEST 87th STREET

CHICAGO, ILLINOIS



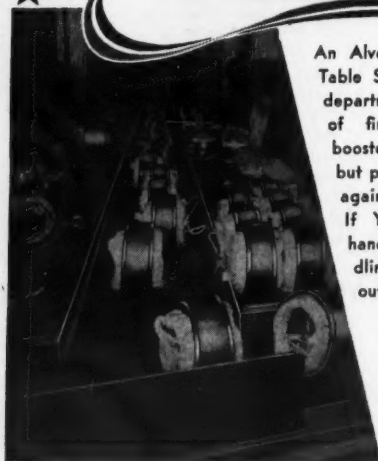


## PICK THERMOCOUPLES FROM TABLES!

If you use thermocouples or thermocouple-making materials, you can have a free copy of the first edition of the handy, practical L&N Catalog N-33A(6). It has, on Page 4, a table showing which kind of thermocouple you should pick for each of the commoner furnace temperatures. And, on Pages 8 and 9, you'll find another table, giving the best materials for tubes to protect thermocouples in sulfur, salt, and various other furnace gases and liquids which corrode the ordinary iron tubes. You'll find thermocouples specifications, wire specs, insulators and heads, and all other parts, in this book. Write for Catalog N-33A(6).



When inquiring specify CEP5507 — see information request blank, pgs. 2-3



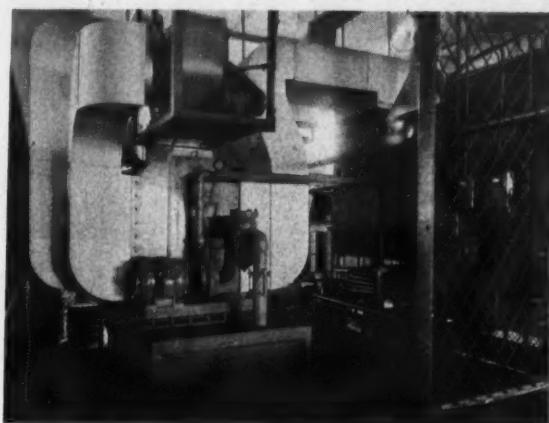
An Alvey-Ferguson Belt Work Table System in the assembly department of a manufacturer of fine motors not only boosted production 180% but provided protection against scraping the stators. If YOU have a product handling or material handling problem write, without obligation, today!

The Alvey-Ferguson Co.  
 156 Disney Street  
 Cincinnati, Ohio



When inquiring specify CEP5508 — see information request blank, pgs. 2-3

## NEW SOLUTIONS OF PLANT PROBLEMS



HUMIDITY CONTROL SYSTEM . . . controls moisture content

### Constant Humidity Control At 30 Gr. Meets Tablet Production Needs

*Control system maintains proper atmosphere in room where tablets are formed and packaged*

**Problem** — Pharmaceutical manufacturer desired to add effervescent tablet to line but local atmospheric conditions with moisture reaching as high as 130 grains afforded but few days when production and packaging requirements — 30 grains of moisture or less per pound — prevailed.

**Solution** — Humidity control system was installed to economically reduce moisture content of room 40 feet long, 18 feet wide and with ceiling of 12 feet. Ingredients entering into the manufacture of these tablets are taken from dryers installed at one end of the room. The tablet is then produced on a modern tablet forming machine and packaging operations are carried out on a long table running the length of the room. The humidity control equipment employs "Kathene" solution which is capable of increasing or decreasing moisture content of the air in a washing action.

**Results** — Manufacture of this tablet is now conducted on normal production schedule at any time throughout the year in accordance with inventory needs. Controlled moisture protects product and increases economy generally.

SURFACE COMBUSTION CORP., Kathabar Div., Dept. CEP, Toledo, Ohio.

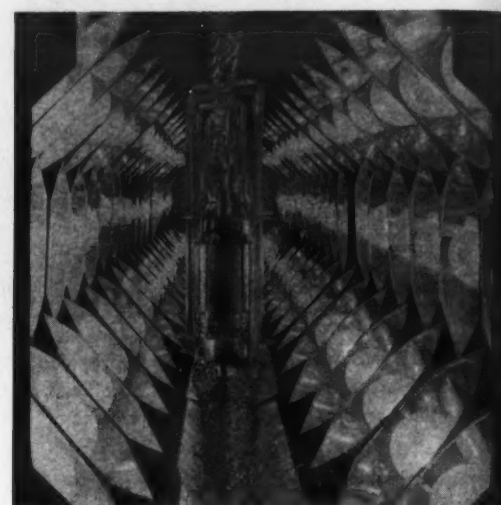
When inquiring specify CEP5509 — see information request blank, pgs. 2-3

### New Infra-Red Process For Baking, Drying In Electric Motor Industry

*Speeds operations in both manufacturing and maintenance branches of the field*

**Problem** — Since the introduction of the near-infra red process for many industrial operations its possibilities in various branches of the electrical industry has been indicated. In this instance, large industrial organization sought improvement in drying and baking operations such as those involved with armatures.

**Solution** — The possibilities of this method of drying and baking had been demonstrated in its application in motor repair shops where a few reflectors properly arranged or the use of certain small tunnel set-ups pro-



BAKING ARMATURES BY NEAR-INFRA-RED PROCESS  
 . . . armatures suspended from conveyors

vided speedy and economical performance in drying and baking insulating varnish on various size armatures, stators and coils. Time savings up to 50% were achieved. In the larger operation referred to here, armature suspended from an overhead conveyor are baked in an average of 50 minutes, generator housings after being completely assembled are sprayed with black finish and baked in the same tunnel for 27 minutes.

**Results** — Savings in time and labor. Results so satisfactory that other departments in plant sent in drying and baking jobs eventually necessitating a second installation. Complete information of the baking and drying process described here is available upon request.

FOSTORIA PRESSED STEEL CO., Dept. CEP, 942, Fostoria, Ohio

When inquiring specify CEP5510 — see information request blank, pgs. 2-3

### Cellophane-Bag-In-Box Replaces Tin Cans for Frozen Eggs

*Light, compact unit saves handling costs; speeds defrosting; suitable for other foods*

**Problem**—Food processors specializing in frozen eggs have, like others, been obliged to seek suitable substitute for tin containers. Ordinarily, eggs, after removal from their shells, are poured into tin cans of about thirty pounds capacity, frozen and stored. As these cans contain two pounds of metal it is necessary to secure a substitute using less vital materials.

**Solution**—Practical application of cellophane in wrapping frozen foods suggested its possibilities in this connection. This led to the development of a new container comprising a special rectangular fibre-board box designed to hold a leak-proof cellophane bag. Adequate protection to eggs is provided and strong construction withstands handling in shipment.

**Results**—In addition to satisfactorily meeting the general requirements, these cellophane bags and cartons offer a number of distinct advantages. Cost is lower than tin, compact design and light weight make for easy handling and reduce shipping charges. Freezing time is comparable to that of metal containers but defrosting is much quicker



## APPLICATIONS

as blocks of frozen eggs can be removed from carton stripped of cellophane wrappers and placed in defrosting tanks. Metal cans require warming before eggs can be removed. Container is said to be suitable for pie filling, oleomargarine, jellies and various dehydrated products.

E. I. du Pont de NEMOURS & CO., Dept. CEP, Wilmington, Del.

When inquiring specify CEP5511 — see information request blank, pgs. 2-3

### Clean Brass-Copper Parts Without Use of Degreaser and Acid Dip

*New cleaner designed for more thorough, faster action and for use in still tanks as well as washing machines and agitating tanks*

**Problem** — A need for speeding up cleaning brass and copper in industrial and war plants has been indicated as well as the desirability of improving thoroughness of cleaning and where possible to eliminate the use of degreasers and Bright Dip. Also to obtain a cleaner that could be used in still tanks as well as in washing machines and agitating machines.

**Solution** — Laboratory and library research was augmented by intensive work in an arsenal and two factories. As a result of this research and many tests two products were developed. One for use in still tanks and one for use in washing machines and agitated tanks.

**Performance** — Oil removing properties are indicated in the following test. At a concentration of 4 oz. per gallon at a temperature of 212 degrees F, this product removed S.A.E. 50 lubricating oil in one minute and thirty-two seconds and at 8 oz. per gallon in forty-six seconds. Panels were .032 copper, dipped in the oil and allowed to drain for three hours at room temperature. Rinsing properties: Panels rinsed freely with cold water, leaving no film of any kind whatever, evidenced by the fact that the rinse water on the panels formed a smooth unbroken layer, free from water break. Solution with 4 oz. per gal. had a pH of 11.7.

**Applications** — In a brass fabricating plant, all metal was first passed through vapor degreaser, then into an alkali cleaning tank, then to rinse tank and finally through a bright dip and then a rinse. Indications were that vapor degreaser did not remove all dirt and oil, necessitating use of alkali cleaning tank. In using the new cleaner, it was loaded into the Alkali cleaning tank with a make-up of 6 oz. per gallon heated to 200 degrees F. Parts were passed right into this tank and immersed for three minutes, then removed and passed into rinsing tank which contained cold water, (free running). Examination of metal parts showed them to be free from waterbreak and most of the oxide had been removed. (fire scale from soldering was only oxide left.) Parts were then passed into a bright dip and then into cold rinse tank. In copper core assembly plant the procedure had followed much the same sequence, but an acid dip was also required to produce a chemically clean surface so that the soldering would hold. The cleaner was used with the alkali cleaning tank and the tubes came out chemically clean with the oxide removed.

**Results** — Use of vapor degreaser and critical chemical dispensed with. Use of acid dip also eliminated in second case. Savings in time and labor and parts delivered chemically clean. Products now used in plants referred to here.

NIELCO LABORATORIES, Dept. CEP, 19720 Florence Ave., Detroit, Mich.

When inquiring specify CEP5512 — see information request blank, pgs. 2-3

## Around the Clock—the Months —the Years

*throughout the Process Industries!*

In quieter times, performance was measured in hours, months, years. Now, *minutes* are the unit. Cleveland Worm Gear Speed Reducers help you make *every* minute count by keeping your machines operating continuously.

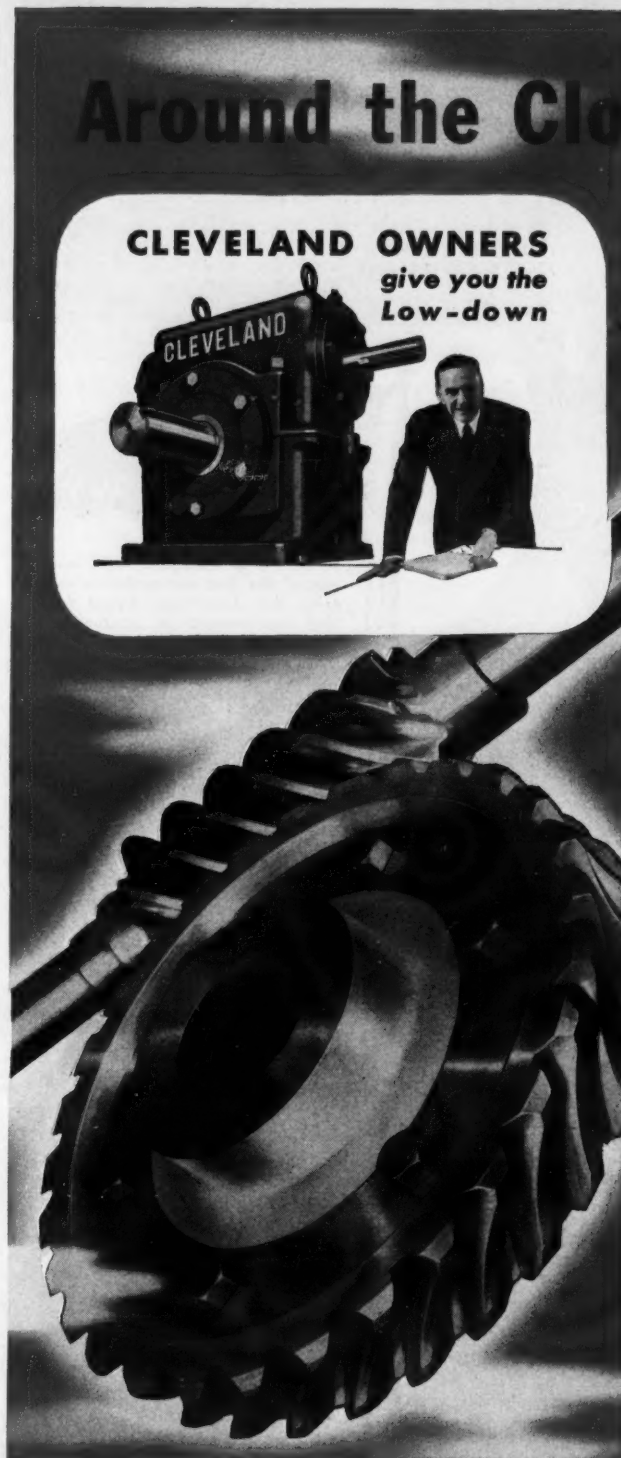
You no doubt have been impressed by this frequent comment from Cleveland owners:—"we have no shutdowns." Though many of these customers installed their first Cleveland Units 15 to 20 years ago on applications subject to heavy shock loads, they have had no need for replacement or maintenance at any time.

Count on Clevelands to keep *your* machines going. The same caliber of Engineering ability that has successfully installed thousands of Clevelands on Mixers, Grinders, Conveyors and other vital Process Plant Equipment is available for applying them to your own operations.

The Cleveland Worm & Gear Co.,  
3257 E. 80th Street, Cleveland, Ohio.

*Affiliate: The Farval Corporation, Centralized Systems of Lubrication*

In Canada: PEACOCK BROTHERS LIMITED



**CLEVELAND OWNERS**  
give you the  
**Low-down**



**CLEVELAND**

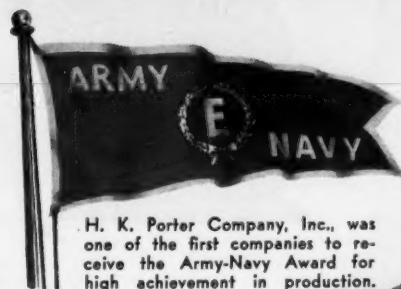
WORM GEAR

*Speed Reducers*

When inquiring specify CEP5513 . . . see information request blank, pgs. 2-3



# PORTER



H. K. Porter Company, Inc., was one of the first companies to receive the Army-Navy Award for high achievement in production.

**LOCOMOTIVES AND**

**PROCESS EQUIPMENT**

## APPLICATIONS

### Tons of Zinc Recovered Each 24 Hours From Foundry Fumes

*System separates high percent of zinc oxide present and maintains copper limit of 3%*

**Problem** — Defense plant operating large scale brass foundry sought solution of "smoke" problem. Actually the "smoke" was fume made up of zinc and copper oxides and unburned carbon and vast quantities of it were spread widely every day. It was obvious that fume contained a great deal of zinc oxide which would be valuable if recovered. Plant authorities' past experience convinced them that it was impractical to recover the zinc in pure enough state (not over 3% copper) for sale or remelting.

**Solution** — The consulting dust collection engineers proposed a two-phase separation system for the delivery of zinc oxide containing 3% or less of copper. The system includes two types of dust arrestors, cyclone and bag filters and provision for lowering the temperature of the fumes before they enter the bag filters. Initial operation of the system delivered zinc oxide of a reported 100% purity but with recovery of only 70% of the estimated recoverable zinc. By lowering the standard of purity to 97½ recovery was increased by two to three tons of salable or usable zinc oxide every 24 hours.

**Results** — This large quantity of zinc oxide formerly lost is now recovered from a high percent of the zinc oxide present in the fume and within the limit of the specified content of 3%. Its value at \$82 a ton for zinc provides a sizeable steady return and is estimated to permit absorbing the cost of the equipment in less than 100 days.

NORTHERN BLOWER CO., Dept. CEP, 6409 Barberton Ave., Cleveland, Ohio.

When Inquiring specify CEP5514  
— see information request blank, pgs. 2-3

For more information on product at left, specify CEP 5515  
... see information request blank between pages 2-3.

**H. K. PORTER COMPANY, INC.**  
PITTSBURGH . . . . . PENNSYLVANIA



## NEW SOLUTIONS OF PLANT PROBLEMS



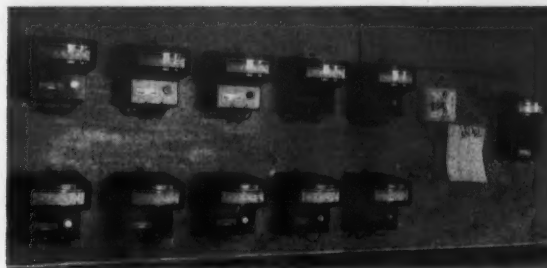
TRIPLE BURNER ASSEMBLY . . controlled with solenoid by one of ten capacitrols

### Temperature Control on Tunnel Kiln Cuts Fuel and Labor Costs

*Adoption of tunnel type kiln eliminates blackout hazard of scove type; and uniform product*

**Problem** — Brick plant faced enforced shutdown of scove kiln firing operations because it provided a continuous lighted landmark, a serious blackout hazard in view of close proximity of war plants.

**Solution** — Tunnel kiln firing was adopted and company built firing kiln 455 feet long to accommodate 72 cars, holding 3000 bricks each. Cars enter the charging end after spending 14 hours in tunnel dryer adjacent to kiln, being moved by a hydraulic pusher. Firing zone is at center of kiln and houses twelve cars. There are 30 oil burners, 15 on each side. To provide exact temperature control for the firing zone of the tunnel, 10 capacitrols are used. Three burners are fed through a single valve in the fuel oil line and each of these valves is controlled by one of the capacitrols. The capacitrol consists of a high resistance indicating pyrometer combined with "radio principle" control. This is achieved by use of a metal flag mounted on temperature indicating pointer arm which is moved by temperature rise between coils mounted on temperature setting lever. This changes the frequency of oscillating current flowing between the coils. Change in frequency operates to de-energize solenoid coil and open relay contacts. Both oil and air are pre-heated before reaching the burners by passing over the roof of the kiln. A high resistance pyrometer, equipped with a 20 station switch is used to read the kiln crown temperature at 13 stations, four points in the drying section, five in the burning section and four in the cooling section. Indicator and controller thermocouples are installed in the kiln crown as follows: Indicator thermocouples are located along the entire length of the kiln while the ten controller thermocouples are located only in the firing zone in the center of the kiln. The pyrometer permits an instant check to determine whether heat from the cooling section is being transferred as rapidly as desired to the pre-heater and whether temperatures are maintained sufficiently high in the drying end of the kiln. The high resistance pyrometer with integrally mounted 20 station switch used in this installation has a 6 in. mirrored scale and automatic compensation for cold junction temperature variations. The selector switch is double pole with a resistance of not more than .002 ohms. When the cars emerge at the cooling end of the kiln, half



TEN CAPACITROLS . . control kiln temperature, pyrometer (right) checks crown temperatures

of each load is moved at one time by means of a mechanical work and overhead crane to trucks or to yard storage. **Results** — Kiln operating normally on one hour schedule handles in excess of 72,000 bricks a day. Precision controls provide better and more uniform product and save labor and fuel costs. Salability of each charge increased from 90 to more than 98 percent. Fuel comparisons difficult to make because weather is variable factor. Indicated savings however ranged between five and ten percent.

WHEELCO INSTRUMENTS CO., Dept. CEP, Harrison & Peoria St., Chicago.

When inquiring specify CEP5516 — see information request blank, pgs. 2-3

### Comprehensive Research Bulletin Gives Data on Storage of 1:3 Butadiene

A thirty-six-page-research bulletin presents valuable data on the storage of 1:3 butadiene. The purpose, scope and source of material is briefly expressed in the foreword which states "Because of the importance of synthetic rubber to the war program and because of the lack of previous experience in the storage of the raw materials used in the manufacture of synthetic rubber, the Pittsburgh-Des Moines Steel Co., through its Chemical Storage Fellowship at the Mellon Institute of Industrial Research, Pittsburgh, has undertaken to develop the correct physical and chemical properties of these substances as they affect the storage of them and has undertaken a program of chemical and economic research to develop the best container materials, suitable protective coatings, proper storage conditions and the most economical container type, both from a standpoint of initial and annual cost. Chapter headings of some sections include: "Variables Which Affect Storage Costs," "Recommendations for Storage Containers," "Corrosive Effects on Container Materials," "Deterioration of 1:3 Butadiene During Storage," and "Transportation — Kinds of Containers." Available upon request.

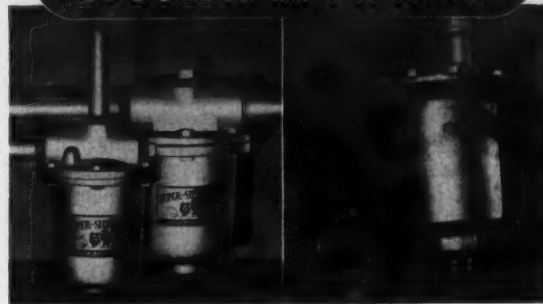
MELLON INSTITUTE OF INDUSTRIAL RESEARCH, University of Pittsburgh, Pittsburgh, Pa.

When inquiring specify CEP5517 — see information request blank, pgs. 2-3

### Have You a "New Solution"?

If you have recently solved a problem in chemical process manufacturing, through a new application or new use of your regular products. The Editors invite you to submit the facts for publication in this department . . . in over 27,000 copies. In submitting your "solution" please be sure to give the pertinent facts of (a) the problem, (b) just what was done and (c) what the results were. Send to The Editors, CHEMICAL EQUIPMENT PREVIEW 737 N. Michigan Ave. Chicago

## Can war production wait on OBSOLETE STEAM TRAP PIPING?



### MODERN

### OBSOLETE

● War production cannot be held up for complicated obsolete steam trap piping. Time is invaluable. Installation of new traps, changes in trap location or trap inspection, must be done in the shortest possible time in order not to tie up steam-using equipment. This means using Anderson Super-Silvertop Steam Traps installed as an elbow or straight-in-line connection, thereby saving from 40 to 60 minutes' time per trap. Besides there's a saving of from 6 to 13 fittings per trap. More than that, Super-Silvertops can be inspected without disturbing pipe connections. Let us send you a copy of the book, "How To Select A Steam Trap." **THE V. D. ANDERSON CO.** 1954 W. 96th St. • Cleveland, O.

When inquiring specify CEP5518 — see information request blank, pgs. 2-3

## Hackney AGITATOR DRUMS

### CONTENTS EFFECTIVELY AGITATED

**HACKNEY DRUMS**, equipped with Hackney "A" Type agitators, have made outstanding performance records in the field. The Hackney "A" Type Agitator can be installed in removable head or tight head containers, and effectively agitates the contents, even to the bottom of the chime.



● Phantom view showing Removable Head Drum with "A" Type Agitator installed.

For removable head barrels or drums, the "A" Type Agitator can be permanently installed—or made removable to facilitate interchangeability and to make cleaning easy. The parts are made of heavy stock, securely welded together to give rigidity and long life. This agitator can be "started"—even with heavy pigments.

Hackney Drums last longer, assure full protection—and they're handled easier and faster. If desired, other commercial agitators can be installed in Hackney drums. Write today for full details.

## PRESSED STEEL TANK COMPANY

General Offices: 1493 So. 66th St., Milwaukee, Wis.  
CONTAINERS FOR GASES, LIQUIDS AND SOLIDS

When inquiring specify CEP5519 — see information request blank, pgs. 2-3



# TABER PUMPS

*are f-l-e-x-i-b-l-e*

The wide adaptability of the new Taber CLVS series of "General-Use" Centrifugal Pumps makes them more suitable for the processing industry. Their design is the direct result of Taber's years of experience with some of the largest chemical plants. Two widely used pumps in this series are described below. For detailed, helpful information on Taber Horizontal Centrifugal Pumps, write for Bulletin CLVS-339.



FIG. 6041  
TABER "GENERAL-USE" CENTRIFUGAL PUMP. Never obsolete. Easily adapted to many jobs. Has over-size ball bearings, extra shaft diameter, deeper stuffing box.

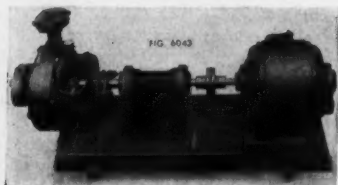


FIG. 6043  
TABER SINGLE SUCTION CENTRIFUGAL PUMP. For Vacuum or Evaporator service. Large chamber surrounds stuffing box for a perfect seal against vacuum. 6407

**TABER PUMP CO.**  
(Est. 1859)  
32 Elm St., Buffalo, N.Y.

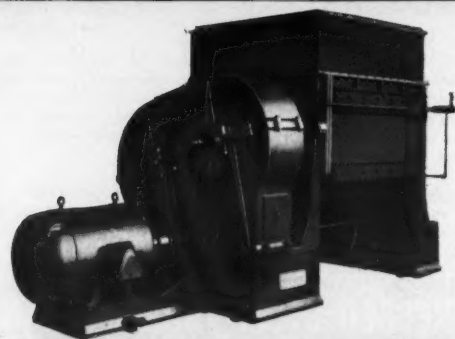
When inquiring specify CEP5520 — see information request blank, pgs. 2-3

## Victory Formula

PRODUCE MORE • BETTER • FASTER

This large 38,000 pound mixer meets all the requirements of the Victory Formula. It is speeding production of light metals in many plants and has a production so much greater than expected that ten of these machines will out-produce fifteen mixers of similar capacity but of less modern design.

This is but one example of the way Baker Perkins Engineers, by drawing on their many years of mixer experience, develop special machines to handle today's production problems.



**BAKER PERKINS INC., Saginaw, Michigan**

When inquiring specify CEP5521 — see information request blank, pgs. 2-3

## APPLICATIONS



METAL SPRAYING TURBINE SHAFT . . using propane gas and stainless steel wire

### Worn 18 Ton Turbine Shaft Built Up In 7 Hours By Metal Spraying

*Shaft reconditioned for service at small cost in time, labor and materials*

**Problem** — Power company was forced to shut down steam-turbo generator because of a worn shaft. Two areas of wear were noticed in the water wheel section of this huge 18 ton forged steel shaft. One worn area was approximately three inches wide at the 11 in. diameter section of the shaft, the other occurred where the diameter was 10½ inches and had worn an area about 2 inches wide. Since this 36,000 pound counter-balanced shaft (less than one-thousandths of an inch vibration) is subject to heavy duty its repair presented a problem involving careful selection of methods employed.

**Solution** — It was decided to build up these worn areas by spraying metals onto the shaft. This was accomplished by use of a gun especially designed for such operations using metal in wire form, in this instance No. 2 eleven gauge stainless steel wire. Before the spraying, preparatory steps were necessary. The worn sections were first undercut about three sixteenths of an inch, and then grooved and knurled. A rig was hooked up on the bed of the turbine to accommodate the cutting and knurling. Also to hold the gun during the spraying operation. An electric motor with reduction pulley arrangement was rigged to the turbine end of the shaft and revolved the shaft at a speed of about five revolutions per minute during both the preparatory and spraying operations. An auxiliary air jet was placed on the opposite side of the shaft to facilitate cooling during the spraying. Only four hours of spraying were required to salvage this shaft. Propane gas was used and the entire job was completed with forty pounds of wire. Total time of job was seven hours. Following spraying shaft was ground to size and reassembled in generator.

**Results** — Generator was back in service within interval of seven hours. Cost for salvaging a small fraction of replacement which would be a serious matter under present conditions. With the method used there was no possibility of warpage, crystallization or heat stresses to the surface treated. Process described is known as "metalliz-

## This BLACKMER HAND PUMP



*it*  
**SAVING TIME AND MATERIALS IN THOUSANDS OF INDUSTRIAL PLANTS**

Wherever liquids are dispensed from barrels, tanks or vats, there is **THE RIGHT BLACKMER HAND PUMP** for the job. 54 standard models

Capacities from 7 to 25 GPM. The easiest operating hand pump on the market.

Write Blackmer Pump Company, 18411 Century Ave., S. W., Grand Rapids, Michigan, for Bulletin 205.

It is free to plant operators.

**BLACKMER Rotary PUMPS**  
"BUCKET DESIGN"—SELF-ADJUSTING FOR WEAR

When inquiring specify CEP5522 — see information request blank, pgs. 2-3

## BAKER TRUCKS

can help you to conserve  
**Man Power**

*Here's how —*

- 1. HANDLING MATERIAL FASTER** — Saving man-hours means saving man-power. Baker Trucks cut handling time.
- 2. HANDLING BIGGER LOADS** — Baker Trucks, carrying pallet or skid loads, eliminate piece handling, and release man-power for other work.
- 3. USING FEWER MEN FOR SAME JOBS** — One man with a Baker Truck can do the work of many men with hand trucks.
- 4. GETTING MORE OUT OF SKILLED LABOR** — Cutting idle time of machines by servicing them with Baker Trucks conserves skilled labor.
- 5. CUTTING WASTE TIME** — Waiting for material wastes man-power. Baker Trucks move material where needed, when needed.
- 6. DISPOSITION OF SCRAP** — Keeping aisles clear and handling scrap efficiently with Baker Trucks saves man hours.



**THE BAKER MATERIAL HANDLING ENGINEER CAN HELP YOU**

He is a specialist and knows how to get the most out of material handling to conserve man-power. He is at your service.

**BAKER INDUSTRIAL TRUCK DIVISION** of the Baker Engineering Company  
2163 WEST 25th STREET • • • CLEVELAND, OHIO

**Baker INDUSTRIAL TRUCKS**

When inquiring specify CEP5523 — see information request blank, pgs. 2-3



## APPLICATIONS

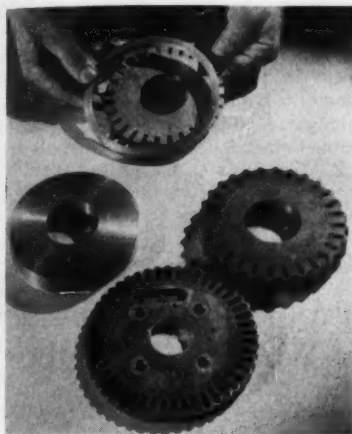
ing" and gun is "MOGUL" metallizing gun. Propane or acetylene gas may be used. Literature describing equipment, accessories and directions for use available on request.

METALLIZING COMPANY OF AMERICA, Dept. CEP, 1330 West Congress St., Chicago, Ill.

When inquiring specify CEP5524 — see information request blank, pgs. 2-3

### Stripper Making Method Conserves Dies, Improves Stamping Quality

*Provides stripper accuracy to that of die and reduces manufacturing costs*



DIE STRIPPERS . . . made by simplified method

**Problem** — Manufacturer desired to increase life of metal stamping dies and improve the quality of stampings through better stripper design and accuracy. A stripper has an important bearing on the overall performance of the die. For example, in the typical case cited here — the making of motor laminations — the clearance between the punch and the

die is usually in the order of one-thousandths of an inch and the stripper must fit almost as accurately as the die itself. Formerly the stripper was made of one piece by laying out, jig boring, sawing and hand filing the slots. Such operations have the hazard of causing non-uniform clearance in slots — a factor that hastens the wear of the die.

**Solution** — By a new method, a disc of the proper grade of tool steel is machined to the outside diameter of the slot edge, and equidistant slots are cut on a milling machine using a ground form cutter. An outer ring is shrunk to the milled piece and copper brazed in a controlled atmosphere furnace. As shown in the illustration, disc (A) is slotted into spider (B) and outer ring (C) is shrunk to it and copper brazed in a controlled atmosphere furnace at 2050 degrees F. The brazed assembly is then machined (D) and ready for use. A one piece hand-filed stripper "E" made by the old method is shown in the foreground.

**Results** — Die life is increased and the quality of metal stampings improved. Stripper accuracy equal to that of the die is achieved as well as a manufacturing cost of 1/3 to 1/15 that of the old, conventional method.

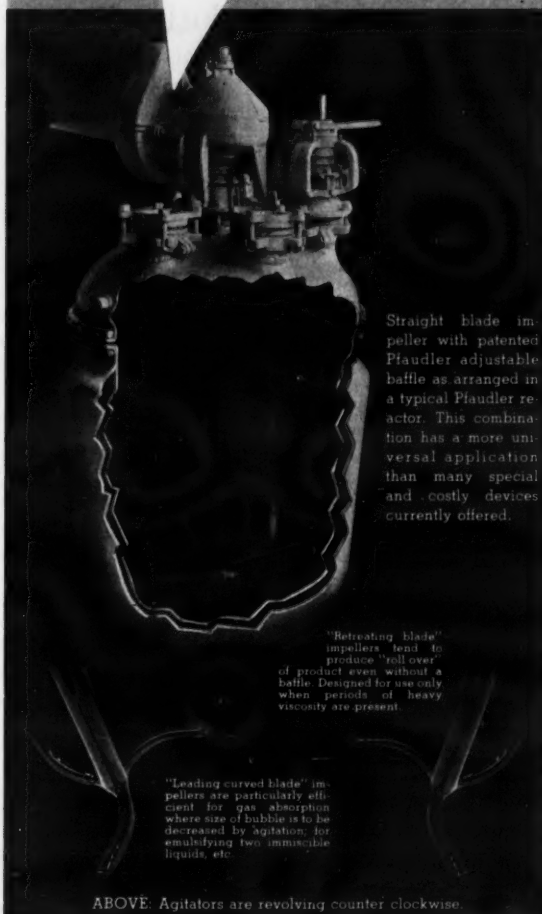
WESTINGHOUSE ELECTRIC & MFG. CO., Dept. CEP, East Pittsburgh, Pa.

When inquiring specify CEP5525 — see information request blank, pgs. 2-3

If you are a responsible process executive CHEMICAL EQUIPMENT PREVIEW will be sent to you personally if you request the publishers to do so . . . there will be No Charge. See request slip between pages 82 and 83.

YOUR PRODUCTION  
DRIVE STARTS WITH  
YOUR EQUIPMENT

## Increase yield WITH MORE EFFECTIVE AGITATION



Straight blade impeller with patented Pfaudler adjustable baffle as arranged in a typical Pfaudler reactor. This combination has a more universal application than many special and costly devices currently offered.

"Retreating blade" impellers tend to produce "roll over" of product even without a baffle. Designed for use only when periods of heavy viscosity are present.

"Leading curved blade" impellers are particularly efficient for gas absorption where rate of bubble is to be decreased by agitation, for emulsifying two immiscible liquids, etc.

ABOVE: Agitators are revolving counter clockwise.

★ Violent mixing action of Pfaudler impeller agitators speeds up gas absorption, emulsification, suspension of heavy catalyst . . . three types of impellers.

At a time when more output is the need of the hour, have you considered what efficient agitation might do for you?

The violence of mixing action which can now be obtained with Pfaudler glass enameled impeller agitator, alone or in combination with the patented adjustable glass enameled baffles, makes it possible to use Pfaudler acid resisting glass lined process equipment for services never before thought possible.

### THREE TYPES OF PFAUDLER IMPELLERS:

1. "Straight blade" impellers are used most universally and produce maximum agitation at a given speed. Designed for all liquids, even those which are viscous.
2. "Retreating blade" impellers are designed to produce a "roll-over" of products, even without the use of baffles and should be used when periods of heavy viscosity are present in process.
3. "Leading curved blade" impellers are opposite in curvature to "retreating blades" for the purpose of producing a breaking up, mixing or emulsifying action. It is particularly good for gas absorption, emulsifying two immiscible liquids, etc.

All Pfaudler agitators are coordinated in design with stuffing box and drive for high duty service. The acid resistance of agitators is identical to the reactor or still itself.

If you are unfamiliar with the progress Pfaudler has made in design of *standard* highly acid resisting glass lined still equipment recently, let us bring you up-to-date. Drop us a line.

PFAUDLER GLASS-LINED  
STEEL IS RESISTANT TO  
ALL ACIDS (except HF) IN  
ANY CONCENTRATION  
OR ANY TEMPERATURE



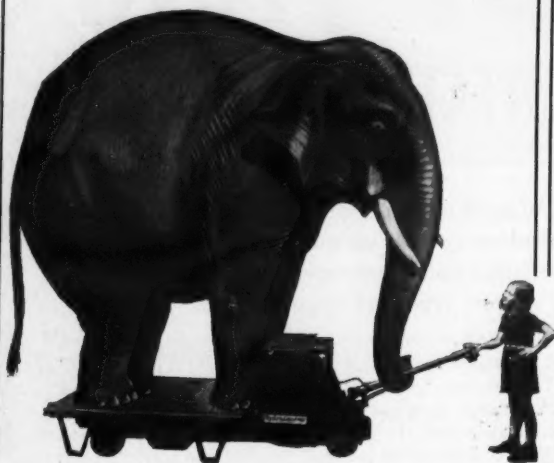
## PFAUDLER

THE PFAUDLER CO., Rochester, N. Y. Branch Offices: 330 West 42nd St., New York, N. Y.; 1442 Conway Bldg., Chicago, Ill.; 1325 Howard St., San Francisco, Calif.; 495 Paul Brown Bldg., St. Louis, Mo.; 7310 Woodward Ave., Detroit, Mich.; 1316 1st Nat'l Bank Bldg., Cincinnati, O.; 1228 Commercial Trn. Bldg., Philadelphia, Pa.; 781 Little Bldg., Boston, Mass.

When inquiring specify CEP5526 . . . see information request blank, pgs. 2-3



with the  
**GREATEST**  
of EASE!

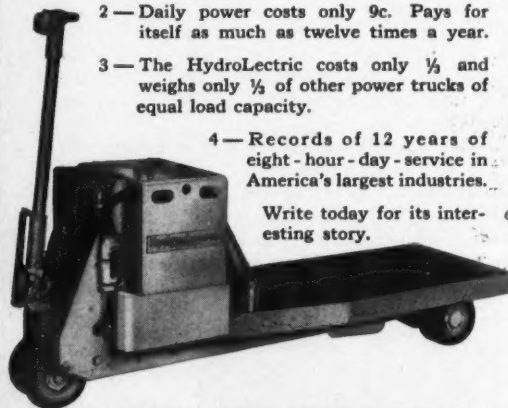


A mere child can move "Elephant" loads easily—quickly—safely—with the HydroLectric made only by Stuebing at Cincinnati, Ohio.

If "tough" loads like this can be moved, think how easy it will be to move your regular loads with HydroLectrics. Consider these features:

- 1—One man moves four times as much in a day as he can with any hand pulled truck. Saves up to 80% of material moving costs.
- 2—Daily power costs only 9c. Pays for itself as much as twelve times a year.
- 3—The HydroLectric costs only 1/2 and weighs only 1/2 of other power trucks of equal load capacity.
- 4—Records of 12 years of eight-hour-day-service in America's largest industries.

Write today for its interesting story.



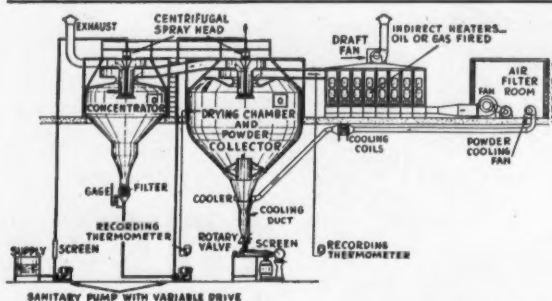
## LIFT TRUCKS INCORPORATED

W. C. STUEBING, President

2425 Spring Grove Ave., Cincinnati, Ohio

Stuebing also manufactures hand lift trucks (not motorized) in capacities up to 8000 pounds.

## EQUIPMENT FOR PRODUCTION



DEHYDRATING SYSTEM . . designed for quick, uniform drying and final handling without special collection chamber

### Centrifugal Sprays of Dehydrator Efficiently Mix Product and Air

*Fuel consumption reduced by saturating drying air before exhaustion; system quickly adjusted to various materials*

**Uses** — For dehydrating chemical, rubber, pharmaceutical products, milk, eggs, gelatin, chicken, beef, potatoes, onions, carrots, soy bean protein and many other products.

**Features** — Extremely economical. Efficient consumption of fuel per pound of water evaporated as drying air is fully saturated before it is exhausted to the outside atmosphere. Practically all the available heat put into the air by the heaters has been used to evaporate water from the product being dehydrated and is not being passed out to the atmosphere and lost. Efficient recovery of solids. Entire plant can be operated by two men.

**Operation** — Liquid material is pumped from supply tank to spray head in concentrator by a sanitary pump with variable speed drive. The concentrated liquid material is collected at the bottom of the concentrator where a uniform level is maintained by means of the variable speed drive on the sanitary pump which supplies the liquid to the centrifugal spray head. Volume of liquid flowing to the spray head is regulated by manual control. The concentrate at the bottom of the concentrator is carried to the drying chamber spray head by means of another sanitary pump with variable speed drive which in turn is used to control the drying temperature and consequently the moisture content of the resulting product. Air is supplied to the drying chamber by heating units of the indirect type which may be either oil or gas fired. (Fin type steam coils may be used as an alternative means for heating air.) Air leaves the heating units at predetermined temperatures and enters the drying chambers at high velocity in a spiral motion from a snail inlet through an annular space adjacent to the outlet duct connected to the spray head. Liquid brought to the drying unit spray head from the concentrator is discharged into the whirling stream of incoming air. This results in quick, uniform drying. The spiral motion of the air throws the powder to the wall of the drying chamber and down into the bottom of the collector where it is cooled by cold filtered air which is fed into the powder zone of the collector in revolving motion. From the collector the powder falls into the outlet valve which feeds it to vibrating screen from which it is discharged into barrel or container for shipping. Drying air before being expelled is saturated by carrying it through an outlet at the top of the drying chamber and through a duct to the concentrator which it enters through a snail inlet similar to that on the drying chamber. Here the liquid to be dried is discharged into the

incoming air from the outlet of the drying chamber by the centrifugal spray. The drying air immediately becomes saturated and is exhausted from an outlet at the top of the concentrator and through the exhaust stack to the outside atmosphere. On materials with exceptionally high solid content or where a plant of comparatively low production is desired the drying chamber can be economically operated without the use of a concentrator.

**Description** — Equipment comprises a complete spray drying plant employing centrifugal type spray heads in concentrator and drying unit, air heating units, air filter, air supply fan, powder cooling fan and sanitary pumps with variable speed drives. Recording thermometer indicates temperature in drying chamber. Gauge indicates quantity of liquid material in bottom of concentrator. Equipment may be quickly adjusted to dehydrate different products. Drying chamber is insulated with magnesia block, covered with canvas down to cooling section of collector bottom. Adherence to simplicity in design and use of many standard parts such as motors, pumps, heaters and fans contributes to low maintenance costs. Design and principle of the drying chamber makes collection chamber unnecessary.

DRYING & CONCENTRATING CO., Dept. CEP, 332 So. Michigan Ave., Chicago, Ill.

When inquiring specify CEP5528 — see information request blank, pgs. 2-3

### ARC Control Stations Increase Capacity of Welding Generators

*Maximum usefulness of each generator; closer control of welding current*

**Uses** — These arc control stations are auxiliary electric devices to provide closer control of the welding current by operator and increase the number of operators served by generators.

**Features** — Each operator can regulate his own current and weld as he desires without affecting others in any way. A great advantage of this equipment is remote control of the welding current within predetermined limits by means of a portable switch held in operator's hand. Switch may be combined with the electrode holder if desired. An important feature is remote control of the arc when the operator reaches the end of the bead, thereby enabling him to greatly improve the quality of the weld deposit at the crater. This is accomplished by gradually reducing the current which, in turn, reduces the heat and avoids porous, cracked craters and inclusions.

**Description** — These control stations are made in capacities of 75 and 150 amperes. They are connected in series with the welding current of any constant potential arc welding generator. Most conventional drooping voltage generators can be converted quickly and easily to constant potential. For this purpose this manufacturer supplies a quick change switch mounted on the generator. Each operator has his choice of two methods of control: He can set the station to deliver a definite current at the arc and weld steadily at that setting. He can use the hand switch to vary the current without breaking the arc. This enables him to start his arc on cold metal with a maximum current (hot arc) and to reduce the current as the work warms up. With two 75 ampere control stations a 200 ampere generator can serve two operators instead of one. The result is more production with the generator operating near its rated capacity at all times. Similarly a single 400 ampere generator can be made to serve 5 to 6 75 ampere stations or

When inquiring specify CEP5527 — see information request blank, pgs. 2-3



## PRODUCT IMPROVEMENTS



ARC CONTROL STATION . . . . attached to welder

3 to 4 150 ampere stations. Each operator can draw the amount of current he wants up to the capacity of the station at all times regardless of what current the other welders are drawing. Current control contributes to sound smooth welds at the end of each bead. Equipment is called "Honey BEE" arc control station.

WILSON WELDER & METALS CO., Dept. CEP, 60 E. 42nd St., New York, N. Y.

When Inquiring specify CEP5529 — see information request blank, pgs. 2-3

### Semi-Automatic Machine Seals Tops And Bottoms of Any Size Carton

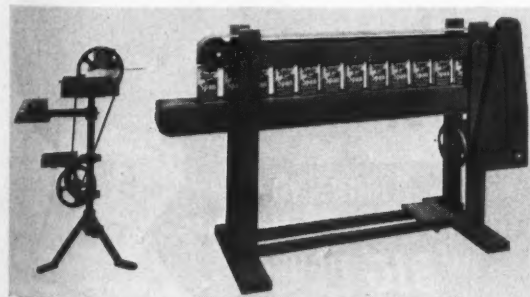
*Duplicate combination of units can be used to provide straight line production set-up*

**Uses** — This semi-automatic equipment is designed for sealing top and bottom of cartons of all sizes. Used effectively in carton filling operations involving chemicals, soap products, foods and others using relatively small cartons.

**Features** — Great flexibility. Can be used for sealing top and bottom or one end only.

**Performance** — Many of these machines are now in use and with one operator per line as shown in illustration equipment will produce up to 25 top or bottom sealed cartons per minute.

**Operation** — Carton bottoms are semi-automatically glued



CARTON SEALER AND CONVEYOR COMBINATION . . . quickly adaptable to wide range of materials and cartons

on the gluing unit. Glue rolls apply glue to two sides of one flap. The bottom of the carton is then folded and passed through the compression unit. A duplicate combination of these units can be used for top sealing making for a straight line production set-up. Carton filling operations can be set-up between each set of machines using either automatic weighers or filling by hand.

**Description** — These units use a substantial quantity of hardwood in construction for strength and to conserve vital materials. Manufacturer states that this equipment is available without priority.

TRIANGLE PACKAGE MACHINERY CO., Dept. CEP, 906 No. Spaulding St., Chicago, Ill.

When Inquiring specify CEP5530 — see information request blank, pgs. 2-3

### Rubber Linings for Handling Corrosives

Properties, performance and application of rubber linings in tanks, pipes, valves, ducts and drums that must handle corrosive and abrasive materials are described in clear detail in four-page-illustrated-catalog section. One of the many practical values is a table listing over 100 of the most common services for which this type of lining is suitable and indicating the limits of temperature and concentration of the fluid in each case. Section No. 9000 available upon request.

B. F. GOODRICH CO., Dept. CEP, Akron, Ohio.

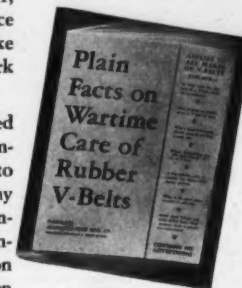
When Inquiring specify CEP5531 — see information request blank, pgs. 2-3

## Announcing Plain Facts on Wartime Care of Rubber V-belts!

**FREE!** To every engineer, executive and maintenance man . . . to help him make his Rubber V-belts work better, last longer!

Every engineer concerned with vital wartime performance of V-belts wants to know . . . How the anatomy of a V-belt affects its maintenance . . . How to maintain proper V-belt tension . . . What to do about worn sheaves . . . What determines the "life expectancy" of V-belts.

This new Rubber V-belt handbook explains these and many other maintenance facts about V-belts. Find out how to protect yours, get the most from them! Send to Allis-Chalmers for this valuable new handbook today!

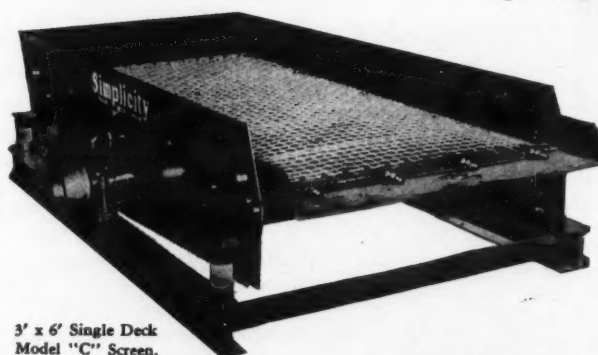


**ALLIS-CHALMERS**  
MILWAUKEE WISCONSIN

When Inquiring specify CEP5532 — see information request blank, pgs. 2-3

## Simplicity Gyrating Screens

have been built and used since 1922 and today are operating in over 1400 different plants through out the country. Simplicity screens are used for every type of operation requiring a separation into sizes, reclamation of products or dewatering of liquid pulps.



3' x 6' Single Deck Model "C" Screen.

Simplicity screens are used to recover good wood fibre from the waste white water in paper mills; screen starch solutions through 200 mesh cloth; dewater finely ground rubber; size and also pack every kind of food cereal, and make fine

mesh separations in different chemical plant operations.

*Have a Simplicity Engineer Check Your Requirements*

**SIMPLICITY ENGINEERING COMPANY**  
DURAND, MICHIGAN

*For Canada Watrous Limited, Brantford, Ontario*

When Inquiring specify CEP5533 . . . see information request blank, pgs. 2-3





**6 WAYS\* TO DO A BIGGER WAR JOB WITH STAINLESS STEEL PROCESSING EQUIPMENT**  
**#4 CHECK WELDED SEAMS CAREFULLY**

S. Blickman, Inc. uses modern testing machines to check factors which affect soundness of welds.

Stainless steel equipment is only as strong—only as corrosion resistant—as its welded seams. Grain growth, carbide precipitation and other impairments resulting from incorrect welding procedures, may affect the soundness of the seams of your equipment—lessening its strength and corrosion resistance. . . . To be sure of sound welded seams in your war-time processing equipment, have it built by an experienced fabricator. Our skilled craftsmen are qualified to weld to A.S.M.E. code specifications. Our *know-how* assures you of equipment that will stand up under war production schedules.

All Orders Subject to Government Priority Regulations  
 \*Fourth in a series of advertisements written in the interests of efficient war production.

Write for the brochure "What to Look for When You Specify Stainless Steel for Your Processing Equipment"



**S. BLICKMAN, INC.**  
 711 GREGORY AVE. WEEHAWKEN, N. J.  
 TANKS • KETTLES • CONDENSERS • AGITATORS • EVAPORATORS • PANS • VATS • CYLINDERS

When Inquiring specify CEP5534 — see information request blank, pgs. 2-3



**LINING MEMO**  
*Check up!*  
 on the company that for 58 years has been installing acid and corrosion-proof linings —

TODAY you can't afford "down time" to repair or replace improperly designed and installed linings. Never was it more important to remember: "SEMCO" quality — is real economy.

#### Stebbins Linings and Tile Tanks:

- Assure clean stocks and uninterrupted production schedules.
- Reduce maintenance and repair costs.

Consult a Stebbins Engineer if you have a lining problem.

**SEMCO**  
**Stebbins Engineering and Manufacturing Company**  
 WATERTOWN, NEW YORK

When Inquiring specify CEP5535 — see information request blank, pgs. 2-3

## PRODUCTION

### Nylon Paint Brush Bristles Meet Requirements and Ease Shortage

*Have taper, resiliency, length, toughness; not available for civilian use for duration*

**Uses** — These synthetic paint brush bristles were developed to meet shortage of the natural product imported from China and Russia. Chemists of the producers had been working on the process for some time and these bristles are now introduced when their need is urgent.

**Features** — Longer wear than natural bristles and not subject to damage by moths. They do not deteriorate in storage, dry out or rot. Cleaned with usual paint brush cleaners. Nylon bristles ready to be placed in brush when they reach manufacturer. Disinfecting, cleaning, trimming and other operations eliminated.

**Description** — These nylon paint bristles not only have the required taper but also resiliency, toughness, length and inertness to paint materials. During 25 years of experimentation virtually every type of resin material had been tried. Most of the work had been with a cellulose coated fibre. None of many materials produced had the required properties. The advent of nylon offered a solution. It was a comparatively easy job to spin a level filament of tough, resilient nylon. Spinning a tapered filament presented the difficulty. After many experiments a taper was achieved by pulling a continuous nylon filament from a special spinnaret at a controlled variable speed — thick diameters at slow speeds and thin diameters at fast. Nylon filaments after being spun have to be drawn to several times their original length. This gives strength and resiliency. The entire production of the synthetic bristle plants soon to be in full operation will be required by the military forces. They will not be available for civilian use until the end of the war.

E. I. du PONT de NEMOURS & CO., Dept. CEP, Wilmington, Del.

When Inquiring specify CEP5536 — see information request blank, pgs. 2-3

### Portable Exhauster-Ventilator Has Six Hose Outlets To Work Areas

*Unit quickly converted to either operation by changing position of tube adapter*

**Uses** — This unit embodies design features that make it a practical and convenient air exhauster or ventilator in areas removed from open air source, in crowded working areas and at actual point of work of numerous operations such as welding.

**Features** — Easily converted to fresh air ventilator by simply changing the position of the tube adapter which is furnished as part of standard equipment.

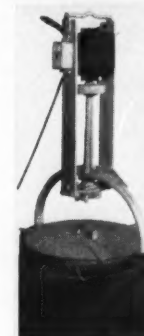
**Description** — Easily portable, mounted on strong, free rolling casters, it can be set or hung in any convenient place between the working area at the open air. The blower unit, employing newly designed blower wheels, is connected by means of flexible metal hose to the area to be ventilated. The unit has six nozzle outlets, each with its own length of flexible metal hose and one to six can be used as desired. Caps are provided for all nozzles not in use. Power is furnished by heavy duty motor protected for overload. Unit is fittingly called the "Octopus."

CHELSEA FAN & BLOWER CO., Dept. CEP, 1206 Grove St., Irvington, N. J.

When Inquiring specify CEP5537 — see information request blank, pgs. 2-3

# IF YOU SIFT Anything..

## YOU CAN DO IT BETTER WITH THE NEW LOWE ELECTRIC SIFTER



Sifts liquids, powders or granular materials with equal ease.

Easily equipped for dust-proof sifting. Average power cost — 1c per hour. Can be equipped with any mesh screen. All moving parts protected from dust and dirt.

Totally enclosed ball-bearing motor ensures low maintenance and long life.

Excellent Deliveries on Standard Motors

Get Information and Prices Today

**The Federal Foundry Supply Company**  
 4600 E. 71<sup>st</sup> ST. CLEVELAND, OHIO

When Inquiring specify CEP5538 — see information request blank, pgs. 2-3

## Quick as Scat! YOU GET ACCURATE Printed WEIGHTS

In conversion or expansion for war production... speed up weighing operations and avoid costly human errors with Toledo Printweigh! Eliminates mistakes in reading and writing weight figures that upset your costs and efficiency. Operates with *split-second* SPEED... automatically prints BIG figures FAST... on thick tickets... sheets... or strips... with extra copies. Simple, direct, dependable. Send for full details. Toledo Scale Company, Toledo, Ohio.

**GET LATEST FACTS!**



*Direct* PRINTING OF TOLEDO Accurate WEIGHTS IN BIG FIGURES

675  
907

When Inquiring specify CEP5539 — see information request blank, pgs. 2-3



## PRODUCTION

### Diaphragm Slurry Pump

Four-page, illustrated bulletin on diaphragm slurry pumps gives complete specification and performance data and emphasizes feature of pump being actuated without mechanical linkage or other mechanical connections to the diaphragm. Describes applications to handling hot or cold acid, neutral, or alkaline slurries or liquors which will flow. Sectional drawing shows details of construction, charts show recommended hook-ups. Capacities and compressed air vacuum and power requirements are given and a conversion table is included. Bulletin No. 307-R available upon request.

OLIVER UNITED FILTERS, INC.,  
Dept. CEP, 33 West 42nd St., New  
York, N. Y.

When Inquiring specify CEP5540  
— see information request blank, pgs. 2-3

### Paper Mills Save Rubber By Use of Press Roll Covers

*Hard rubber base eliminated,  
steel jacket to which rubber  
cover is applied holds roll to  
original finished diameter*

**Uses** — Resigned to provide equal and in some particulars superior service to the usual type of paper mill press roll. Saves rubber in accordance with war conservation program.

**Features** — Eliminates cotton venting strings used in standard construction and their possibility of producing corrugations. Roll has more usable cushion rubber affording longer life.

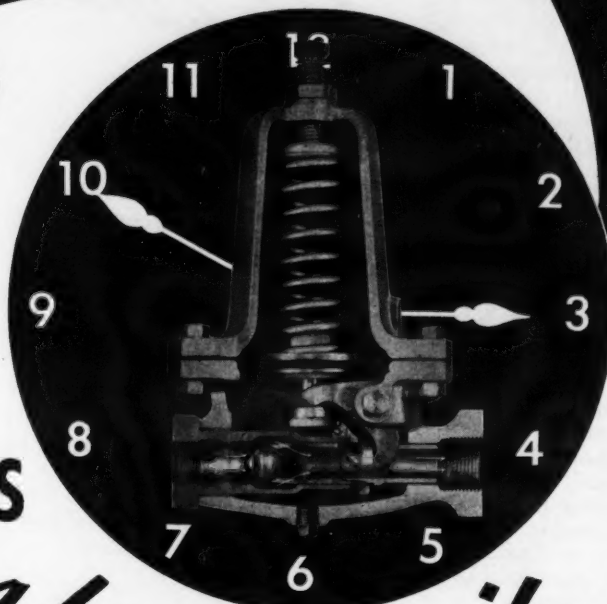
**Description** — By use of a steel jacket the roll is held to its original finished diameter and has the same amount of cushion rubber as before. Elimination of the hard rubber base used in other construction effects a savings of approximately 25 percent of the quantity of rubber formerly required. In applying this new roll, a shell of ordinary steel is welded to the iron core of the roll and the rubber covering applied on the surface of the steel shell. In preparing

For more information on product at right, specify CEP 5541  
... see information request blank between pages 2-3.

IN THESE DAYS OF  
**24-Hour Operation**

**Get  
THESE  
DOZEN  
VALVE  
BENEFITS**

*24 hours daily*



1. MAXIMUM CAPACITY WHEN NEEDED MOST
2. ACCURATE PRESSURE CONTROL UNDER TOUGHEST WORKING CONDITIONS
3. TROUBLE-FREE SERVICE
4. SMOOTH OPERATION
5. TIGHT CLOSURE
6. ACCURATE REGULATION
7. SPEEDIER PRODUCTION RESULTS
8. ELIMINATION OF FAILURES
9. CONSTANT DELIVERY PRESSURE
10. COST SAVING OPERATION
11. NO SPOILAGE
12. PRACTICALLY ZERO IN MAINTENANCE COSTS

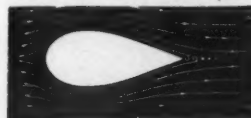


You can find out full details on all of these 12 points by reading Bulletin "1000"—send for it.

## CASH STANDARD *Streamlined* REDUCING VALVE

TYPE 1000  
PRESSURE

Whether you are operating one, two, or three shifts a day, the "1000" valve, through "Streamlined" performance, is a valuable factor in aiding in smooth operation, high production, and better quality results. Check the twelve points and you will see that you get every advantage in pressure reduction for steam, air, oil—most anything that flows. The "1000" valve stays on the job for years rendering remarkable service—all without giving trouble. The Streamlined flow around the inner valve eliminates turbulence, thereby giving you best control under varying loads. You get better pressure control and greater capacity because there's a straight path for the fluid through the flow tube.



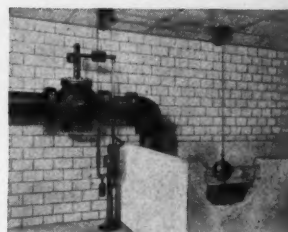
**HERE'S THE "1000" FLOW PATTERN**  
The Streamlined form of the inner valve eliminates turbulence. It produces the flow pattern shown at left which makes for maximum capacity when it is needed most and permits accurate pressure control under toughest working conditions.

A  
**CASH STANDARD**  
"GET ACQUAINTED"  
COLUMN

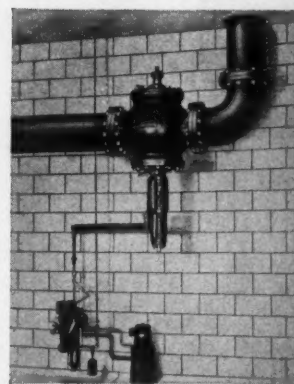


**Question:** "Don't you people make anything besides that Streamlined Valve you talk about so much?"

**Answer:** "Yes Sir; we do! And we propose to picture one or two of them here each time."



In automatic liquid level control, two things are often of prime importance: (1) to hold the level within the closest kind of limits; (2) to do it dependably, day by day. Now Cash Standard controls do both as shown above. A Type 100-L Controller operates a 12" Balanced Valve regulating liquid supply to a large tank. It is pilot actuated for sensitivity. It has operating power to spare—for any size Valve, however large.



Here, a Type 100-L Controller operates a 10" Cash Standard Balanced Valve. It regulates flow through a make-up line to a "dirty water" heater on the floor above. The lever of the "100-L" responds to slightest movement of a float in the heater—causing immediate movement of the power piston which operates the Valve. But there is no "hunting" because the Controller is fully compensated. It has a "range" adjustment too. It gets accurate results with any size valve—no matter how small or how large the valve may be. It is simply a matter of using the right size power cylinder.

**CASH STANDARD**  
CONTROLS..  
VALVES

**A. W. CASH COMPANY**  
DECATUR, ILLINOIS

Get Free Bulletins on  
Above... Write to  
**A. W. CASH COMPANY**  
DECATUR, ILL.



# Memo to a busy Chemical Engineer

Best bet for a 1942 or '43 industrial installation for processing most corrosive liquids is Lapp Chemical Porcelain. This material, a dense homogenous, thoroughly vitrified ceramic, is inherently resistant to corrosion, is completely non-porous.

The valve, with stem and seat ground and lapped to precision fit, is smooth-working, leak-proof. Pipe ends are fine-ground for use with thin, hard gaskets. Raschig Rings give greater purity, long life. For a quick tabulation of facts important to you, write Lapp Insulator Co., Inc., Chemical Porcelain Division, LeRoy, N.Y.

**LAPP CHEMICAL PORCELAIN** RASCHIG RINGS  
PIPE • VALVES

## PRODUCTION

the core for recovering all traces of the old cover are removed on a lathe, care being taken to turn the surface concentric and parallel with the journals. Angular grooves, approximately  $\frac{1}{2}$  in. wide and  $\frac{1}{8}$  in. deep are cut in the surface approximately an inch from the end, for venting away the gases which form the core when the rubber is vulcanized. Each of the grooves has two  $\frac{1}{8}$  in. holes spaced 180 degrees apart which connect the vent grooves to the circulation portholes in each head. Over this core two accurately formed steel sheets are welded longitudinally, so they shrink around and practically form an integral part of the core. They are slightly longer than the core face and are turned off to the same length when welding is completed. Welded seam is ground to eliminate raised bead, steel surface is cleaned thoroughly by shot blasting, cements applied, time given the solvents to escape and the rubber covering put in place. This method is designed to provide absolute bond between rubber and metal, closer control of vulcanization time and temperature, uniform density and end anchors. Already have given extensive service in a number of mills. Rubber cover, cements and process identified by name "Vulcalock."

B. F. GOODRICH CO., Dept. CEP,  
Akron, Ohio.

When inquiring specify CEP5542  
— see information request blank, pgs. 2-3

### Vibrating Equipment

Eight-page, catalog-style booklet with heavy indexed cover for convenient filing describes and illustrates a variety of vibrating equipment for feeding, conveying, sifting, packing, cooling, drying and related operations. A full page with large, clear outlined half-tone reproductions is devoted to each unit of equipment discussed. Text gives concise information on various applications. Foreword explains that material is presented to illustrate typical applications of equipment which is designed and built to suit particular plant conditions. Booklet No. 42 available W. RICHARD WITTE & CO., Dept. CEP, 220 Broadway, New York, N. Y. upon request.

When inquiring specify CEP5543  
— see information request blank, pgs. 2-3

For more information on product at left, specify CEP 5544  
... see information request blank between pages 2-3.

NO MORE



### DUSTITE FEATURES

- (1) Cut dust to a minimum
- (2) Clip closes bag valve
- (3) Fits all types of WEIGHT Sack

### THE EXACT SCALE

31 W. Fifth Av.

When inquiring specify

### FILTER

BU

### A Type

FOR MANY USES

★

BATCH TYPE

CONTINUOUS TYPE

CLOTH BAG TYPE

WIRE GAUZE

PLATE TYPE

GRAVITY TYPE

PRESSURE TYPE

SELF-CLEANING  
TYPE

BACK WASH TYPE

DIATOMACEOUS  
EARTH TYPE

LIQUID CO  
METERING • DISPE

When inquiring specify

NOVEMBER



## MORE BOTTLENECKS WITH Modern Sacking Scales...



FEATURES - -  
... to a minimum.  
... es bag while filling.  
... types of EXACT  
... HT Sacking Scales.

**EXACT WEIGHT  
SCALE CO.**

... fifth Ave.  
... Columbus, Ohio

A Chemical Plant Supt. writes: "We had a serious bottleneck in our sacking and weighing operation. Your field engineer recommended your EXACT WEIGHT Sacking Scales with lock-jaw attachments for handling paper and your new EXACT WEIGHT rapid sacking valve. Sounded good to us so we ordered . . . pleased to report the operation works well and the bottleneck has been eliminated." Have you a bottleneck? If you will telephone or wire we will be glad to help.

When inquiring specify CEP5545 — see information request blank, pgs. 2-3

## Filter Your LIQUIDS WITH BOWSER FILTERS!

Type  
... VY USES  
... X  
... TYPE  
... OUS TYPE  
... AG TYPE  
... GAUZE  
... TYPE  
... Y TYPE  
... RE TYPE  
... EANING  
... E  
... SH TYPE  
... ACEOUS  
... TYPE

There is more to the filtering of liquids than the quality of the filtrate. Flow per hour . . . length of filtering cycles . . . frequency of cleaning . . . operating costs . . . labor . . . and original investment are all factors of prime importance. To gain the advantage of all these factors is the reason so many industries use Bowser Filters. A wide range of pressure filters, diatomaceous earth filters, cloth bag type, automatic self-cleaning filters, batch and continuous type gravity filters in many sizes and for many liquids are at your service. To filter right . . . write Bowser today!

**S. F. BOWSER & CO., Inc.**  
Fort Wayne, Indiana



**ID CONTROL SPECIALISTS SINCE 1885**  
... G • DISPENSING • STORING • LUBRICATING • FILTERING • DISTILLING

When inquiring specify CEP5546 — see information request blank, pgs. 2-3

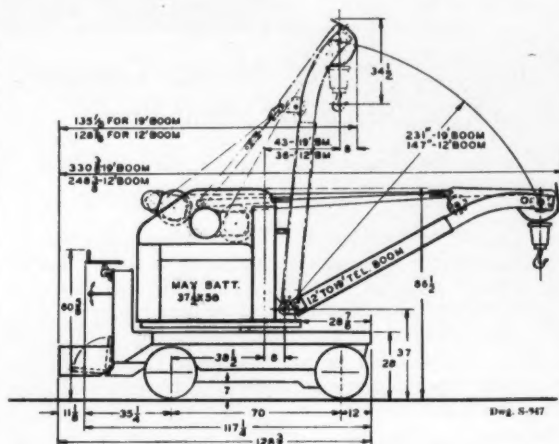
## PRODUCTION

### 10,000 Lb. Crane Truck Combines Lifting, Transporting Operations

*Supplements traveling cranes; units can work in same bay and easily pass each other*

*Uses* — Adapted for industries where heavy loads must be lifted for erecting work, for combined lifting and transporting operations, for placing work in machines and for supplementing overhead traveling cranes.

*Features* — Two or more units can work in the same bay passing each other. Dead weight reduced. Hoist units positioned to be available as counterweights. All controls



**HEAVY DUTY CRANE TRUCK** . . efficient supplement to overhead traveling crane

on dash and do not swing with superstructure. Closely spaced bridging over top of battery compartment permits operator good vision along either side. Mast height permits a higher position for the topping cable idler sheave than is possible with some other designs. This position gives a more favorable angle of pull when raising the boom from the extreme lowered position.

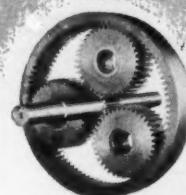
*Description* — Rated capacity of 10,000 lbs. at 5 1/2 ft. radius. Frame is fabricated by arc welding and hot riveting of steel plates and shapes. Superstructure is fabricated of heavy formed plate and structural shapes. Upper block has ball thrust bearing and bronze radial bearing, lower block has bronze bearing. Boom telescopes 12 to 19 center to center of pins. 8 1/2 to 13 feet telescoping, 8 and 12 foot one piece booms also available. Power axle has single reduction worm drive; four pinion differential ball bearing mounted. Full floating alloy steel axle shafts and dust proof universal joints. Trailing axle is identical less driving members. Separate motors for hook hoist, boom hoist and slew. Three speeds forward and reverse control. Protection against accidental starting. Power recommendation of manufacturer is 42 cell Edison battery, 24 cell lead battery or 48 volt Ready-Power. Also furnished with electrical equipment for 60-64 volt batteries and Ready-Power units. Electric horn, high pressure greasing system. One foot high guard protects operators step. Army khaki enamel finish. Descriptive bulletin No. 1612 available.

**BAKER-RAULANG CO., Dept. CEP, 2168 W. 25th St., Cleveland, Ohio.**

When inquiring specify CEP5547 — see information request blank, pgs. 2-3

## "General GEAR" IS A FIGHTER TOO...

He's the guy that makes the Jeeps Jump . . . He's also the BIG-WORKS in the tank, battleship or airplane . . . in fact he's the BIG-WORKS in any Power-saving or Power-driving machinery. HE'S GOTTA BE GOOD. Our organization of many years of Gear Making Experience is going to keep him fighting and to help keep all of us on top.



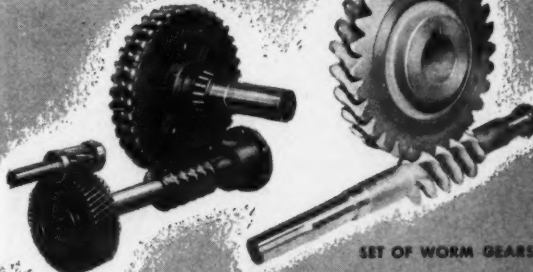
**A SET OF  
PLANETARY GEARS**

**CONTINUOUS-TOOTH  
HERRINGBONE  
GEAR AND PINION**



**A SET OF SPIRAL  
BEVEL GEARS  
WITH PINION  
BEARING MOUNTING**

**GEAR ASSEMBLY FOR HELICAL  
WORM GEAR SPEED REDUCER**



**SET OF WORM GEARS**

**D.O. James**

**MANUFACTURING COMPANY**

**1120 W. MONROE ST. (Established 1888) CHICAGO, ILL.**

**MAKERS OF EVERY TYPE OF GEAR AND GEAR REDUCER**

When inquiring specify CEP5548 — see information request blank, pgs. 2-3



## KUM-KLEEN STICKERS

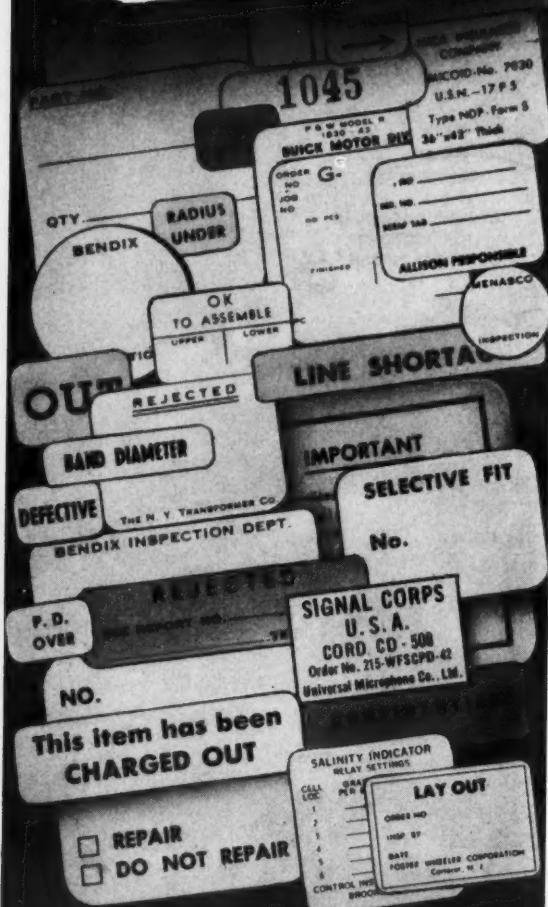
with their magic adhesive backing  
HELP SPEED PRODUCTION!

Only magic Kum-Kleen stickers:

- ✓ are applied without moistening
- ✓ are easily peeled off without leaving a trace
- ✓ yet never pop off

- ✓ adhere to any smooth surface including plastics, metal, glass, wood, varnish, and lacquer.

SEND FOR SAMPLES & CATALOG TODAY!



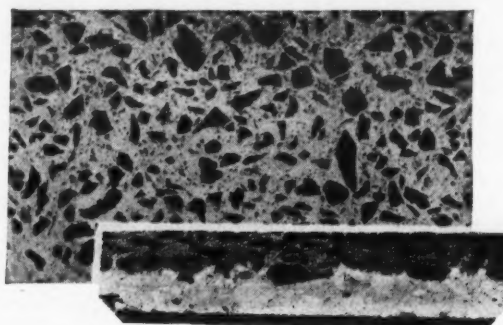
**Kum-Kleen STICKERS**

Avery Adhesives, Dept. CE-11 451 East Third St. • Los Angeles, Calif.

Also manufacturers of perforated metals, perforated metal screens and decorative grilles; light and heavy steel plate construction.

When inquiring specify CEP5549 — see information request blank, pgs. 2-3

## MATERIALS . . .



EMERY AGGREGATE . . . makes floor skid-proof, forms strong bond (lower view) with concrete base

### Emery Aggregate Makes Concrete Floor Surfacing Skid-Proof

*Functions with wet or dry floors; increases load capacity and tensile strength*

**Uses** — To produce non-skid floors either when wet or dry, to reduce hazards of falls and other accidents due to slippery and defective floor surfaces. This aggregate also increases load-bearing capacity and tensile strength of concrete floor mixture.

**Features** — Non-skid property of floor improves as aggregate is exposed, by wearing away of cement, and gripping action is increased.

**Performance** — Specimens of this aggregate floor mixture have supported a load of 14,000 pounds. Tests are said to indicate that ordinary concrete floor mixture will break under 6,200 pounds. This product withstood tension test of over 1000 pounds compared to breakage of ordinary concrete floor mixture under 620 pounds tension.

**Description** — Aggregate is a mixture of scientifically graded large and small, sharp, hard particles of mineral emery rating next to diamond in hardness. The aggregate and nothing else is mixed with Portland cement and water for the floor topping. A firm, non-slip, gripping surface is provided. Greater pushing traction is provided for hand trucking operations. Product is known as Cortland Emery Aggregate.

WALTER MAGUIRE CO., Dept. CEP, New York, N. Y.

When inquiring specify CEP5550 — see information request blank, pgs. 2-3

### Properties & Applications of Terpene Solvents

Properties and applications of a series of terpene solvents are given in a twenty-one page booklet. Text emphasizes that turpentine is but one of various terpene solvents. Thinners and solvents detailed in the booklet are grouped in accordance with their major constituents as Bicyclic Terpene Hydrocarbons; Monocyclic Terpene Hydrocarbons; Terpene Alcohols; Terpene Ethers and Terpene Ketones. A variety of useful technical data is included. In addition to the use of these solvents as single components of paint and varnish formulas it is pointed out that by proper selection among them it is possible to produce a wide variety of solvents which can be extended further or utilized for special purposes. Booklet available upon request.

HERCULES POWDER CO., Dept. CEP, Wilmington, Del.

When inquiring specify CEP5551 — see information request blank, pgs. 2-3

### Quick Setting, Self-Hardening Acid Proof Cement for Process Plant Installation

Detailed and practical data on acid-proof cement is presented in an attractive two-color-magazine style booklet containing many illustrations showing preparation, application and numerous installations. Chemical, physical and electrical are given in concise, tabulated form. A few of the numerous industries using this product include paper mills, steel mills, chemical plants and oil refineries. This quick setting sodium cement is known as "Penchlor Acid-Proof Cement." The booklet is available on request.

PENNSYLVANIA SALT CO., Dept. CEP, 1000 Widener Bldg., Philadelphia, Pa.

When inquiring specify CEP5552 — see information request blank, pgs. 2-3

### Sixth Edition of N. F. P. A. Chemical Listing

A table of common chemical hazards, sixth edition, has recently been issued, giving extinguishing methods for the chemicals listed. Also information on shipping containers, storage safeguards, fire and life hazards for individual flammable chemicals. Copies are 20c each.

NATIONAL FIRE PROTECTION ASSN., Dept. CEP., 60 Batter-march St., Boston, Mass.

When inquiring specify CEP5553 — see information request blank, pgs. 2-3

### Protective Coating For Polished Surfaces Removed In Single Film

*In clear or transparent colors for brushing, spraying, dipping or rolling*



TEMPORARY PROTECTIVE COATING . . . quickly strips free

**Uses** — To provide easily removable, temporary protection to highly polished surfaces against rust, corrosion, grease, finger markings, dust and scratches.

**Features** — Coating easily strips free, peeling off as a complete film without danger of injury to the surface beneath.

**Description** — Coating is furnished in crystal clear or transparent colored formulations for ready identification purposes. It can be applied by brush, spray, dip or roller coating. Air dries at normal room temperatures to form a sturdy, durable, elastic film unaffected by grease, oil, gasoline or corrosive atmospheric fumes or condensates. It will not become brittle under sun light, is unaffected by active oxidizing agents, water, alcohol or brine solutions. Provides protection for bearing, machine part, tool and similar surfaces. Highly serviceable in masking parts in hard chromium plating. Product is known as "Tygon Tempro-Tec."

U. S. STONEWARE CO., Dept. CEP, 60 East 42nd St., New York, N. Y.

When inquiring specify CEP5554 — see information request blank, pgs. 2-3



## PRODUCTION

### Laminated Plastics and Their Applications

Magazine style, twenty-four-page, attractively covered booklet describes what laminated plastics are and describes their various types, including molded-laminated stock, engraving sheet stock, fluorescent and phosphorescent sheet stock and densified laminated wood. Illustrations show laminated stock being turned, cut, sawed and bored. The basic operations in making sheet stock, tubing, rods are described. A large chart listing the properties of laminated phenolic plastics — paper, fabric and asbestos grades is featured on the center spread.

BAKELITE CORP., Dept. CEP, 30 East 42nd St., New York City.

When inquiring specify CEP5555 — see information request blank, pgs. 2-3

### Ameripol, Synthetic Rubber, Handbook

Complete technical data concerning the new Ameripol synthetic rubber for sealing hydraulic systems has just been released. Some of the topics included are: physical properties, factory compounds, percent volume increase, hardness readings, comparison tests and fluid immersion test. Copies are available upon request.

MILLER RUBBER CO., INC., Dept. CEP, Akron, Ohio.

When inquiring specify CEP5556 — see information request blank, pgs. 2-3

### New Resin Broadens Use of Air Drying and Low Bake Coatings

*Imparts same resistance to corrosive chemicals, moisture as shown by baked finishes based on the vinylite vinyl chloride-acetate-resins*

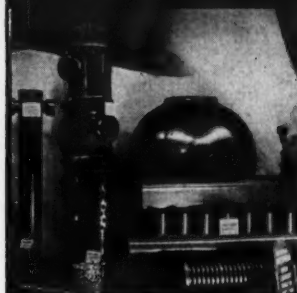
**Uses** — Major field for finishes based on this new resin is believed to be in air dry coatings for maintenance work, for coating industrial buildings and equipment exposed to very corrosive atmosphere, for coating and lining storage tanks to hold petroleum products, acids, alkalis or other corrosive materials and for coatings that must withstand prolonged water soaking or extreme weathering conditions. Incorporation of resin VMCH in formula of finishes based on VINYLITE vinyl chloride-acetate resins makes air drying sufficient to secure good adhesion and high chemical resistance where heretofore a relatively high temperature baking operation was necessary.

**Features** — Clear paper coatings containing resin VMCH show improved adhesion to oil-base inks and to many types of papers. Interesting application is used with high-melting paraffin wax as a moisture-resistant coating for glassine or parchment papers for packaging food products. **Description** — The new resin is quite similar to the vinyl-chloride-acetate resins in most of its properties and differs only in containing a small amount of an additional ingredient that promotes the development of adhesion. It is completely compatible with the other grades and may be blended with them in actual use. The VINYLITE vinyl-chloride-acetate resins, dissolved in organic solvents, have some time past been used on metals, concrete, cloth, paper and other surfaces by dipping, roll-coating, knife-coating, brushing and spraying. Typical application has been the familiar beer can lining. Ability to transmit adhesion properties should prompt the application of VMCP resin in metal finishes such as sanitary coatings, metal decorating finishes and coatings for metal foils, where bakes at 275 to 325 Degrees F. are practicable.

CARBON & CARBIDE CHEMICALS CORP., Plastics Div., Dept. CEP, 30 E. 42nd St., New York, N. Y.

When inquiring specify CEP5557 — see information request blank, pgs. 2-3

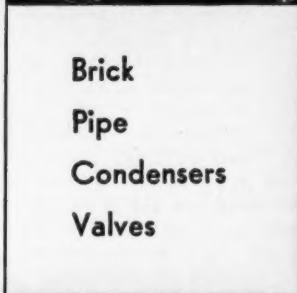
# CHECK CORROSION



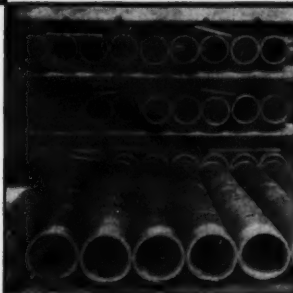
Entirely  
Acid-Proof  
All the Way  
Through



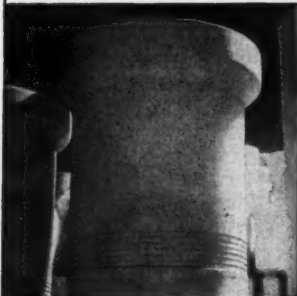
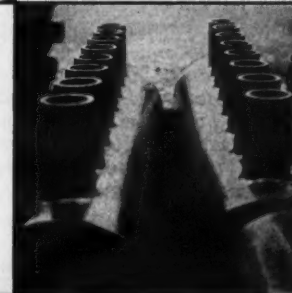
Clean  
Lasting  
Versatile  
Economical



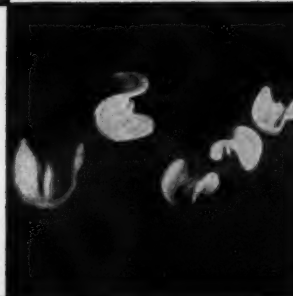
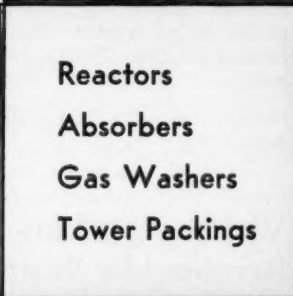
Brick  
Pipe  
Condensers  
Valves



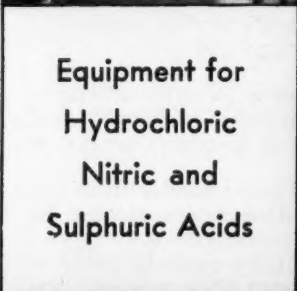
Jars  
Filters  
Tanks  
Towers



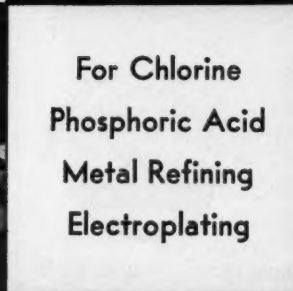
Reactors  
Absorbers  
Gas Washers  
Tower Packings



Acid-Proof  
Linings for  
Concrete  
or Steel



Equipment for  
Hydrochloric  
Nitric and  
Sulphuric Acids



For Chlorine  
Phosphoric Acid  
Metal Refining  
Electroplating



with

KNIGHT-WARE

Acid  
Proof

CHEMICAL EQUIPMENT

Kelly Ave.

MAURICE A. KNIGHT

Akron, Ohio

When inquiring specify CEP5558 . . . see information request blank, pgs. 2-3





## Facts! Figures! Charts!

### about EAGLE SUPERTEMP BLOCKS

**FREE!** Write today for new catalog sheets which explain why Eagle Supertemp Blocks are remarkably efficient for temperatures as high as 1700° F. These all-purpose blocks are made of mineral wool—chemically and physically stable. They have the light weight “dead air cell structure” which is essential to outstanding effectiveness yet are sufficiently strong and tough to withstand normal handling and usage. Send your request to

#### THE EAGLE-PICHER LEAD COMPANY

Cincinnati, Ohio

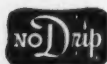
Eagle-Picher High Temperature Insulating Materials also include Eagle Super “66” Plastic Insulation, Eagle Blankets, Eagle Loose Wool, Eagle Insulac, Eagle Insul-stic, Eagle Finishing Cements.

When inquiring specify CEP5559 — see information request blank, pgs. 2-3



No More Damage from Condensation or Sweating Pipes, Tanks, Walls, Ceilings and Air Ducts.

### A SURE CURE



● This sensational plastic cork coating prevents condensation drip from metal, concrete, brick, wood, plaster or composition. Permanently protects metal against rust and corrosion, thus prolonging life of pipes, tanks, etc. Forms a moisture-proof, insulation type coating impervious to acid and alkali.

Stucco-like finish requires no maintenance and can be painted any color. A gallon covers about 30 feet of 1" O. D. pipe. Comes in 1, 5 and 55 gallon drums.

Immediate Shipment. Order from your Supply House.

Write for NoDrip Handbook.

#### J. W. MORTELL CO.

Technical Coatings Since 1895

530 BURCH ST., KANKAKEE, ILLINOIS

When inquiring specify CEP5560 — see information request blank, pgs. 2-3



## MATERIALS

### Transparent Waterproofing for Exterior Building Surfaces

*Closely resembles waterproofing used on planes, transparent, easily applied*



WATERPROOFING . . . easily applied to masonry surfaces

oils and solvent especially efficient in waterproofing coarse building materials. Basically like aeroplane waterproofing but changed sufficiently to work better on rough, hard, exterior building surfaces that may have become porous over a period of years or at some stage in construction. Possesses body to clog up any open spaces, pores or voids in the surface texture. Excellent penetrating properties. Product is called “Flexseal.” Small trial quantity at barrel price.

FLEXROCK CO., Dept. CEP, 2311 Manning St., Philadelphia, Pa.

When inquiring specify CEP5561 — see information request blank, pgs. 2-3

### Welding Masking Compound Easily Removed by Water and Wire Brush

*Can be applied immediately before welding, speeds clean-up job*

**Uses** — To simplify the clean-up job after welding by preventing spattered molten particles — “dingleberries” — from adhering so tightly as to require removal by hammer and chisel.

**Features** — Use of compound makes possible removal of such particles quickly with hand wire brush and water. No waiting for compound to dry before welding.

**Application** — Applied with brush either by welder or others immediately or several hours before welding. Area usually covered is usually about three inches on each side of joint. Before painting, any of the remaining masking compound may be removed with water or a damp rag. If too thick, compound may be diluted with water.

**Description** — Compound is a creamy white fluid. No fumes and it is non-injurious to skin, hands or face. Does not evaporate, is non-inflammable and does not require use of inflammable solvents for removal — only water. It can be used on steel, stainless steel, aluminum or magnesium or to protect glass, fabric or adjacent equipment or finishes. Reasonably priced. Product identified as “Turco Weldmask.”

TURCO PRODUCTS CO., Dept. CEP, 6135 So. Central Ave., Los Angeles, Cal.

When inquiring specify CEP5562 — see information request blank, pgs. 2-3

## NEW! Pulmosan No. 1503 FACE MASK FOR DUSTS

### Full Protection for Lungs, Eyes, Face



This lightweight, one-piece No. 1503 Dust Mask eliminates need for separate respirator and dust goggle, when extra protection is required for eyes and face. Made of pure rubber, with large full-vision, non-flammable, acetate window. Conforms to any facial contour — assures sealtight, comfortable fit. The 4" felt filter is the same used in our D-4100 U. S. Bureau of Mines Approved Respirator. Provides high safety and low breathing resistance in pneumoconiosis producing and nuisance dusts, such as quartz, asbestos, iron ores, aluminum, limestone, gypsum, coal, coke, charcoal, wood, cellulose, flour, etc. Ideal for both men and women workers. Try the 1503 Dust Mask where operations require this triple protection. Write for prices.

## PULMOSAN SAFETY EQUIP. CORPORATION

Dept. EP, 176 Johnson St., Brooklyn, N. Y.

When inquiring specify CEP5563 — see information request blank, pgs. 2-3

## One Formula for All These Uses

X-Pando Pipe Joint Compound is the standard compound in American industrial and chemical plants because it's more economical, more efficient, more versatile. You can't pick up the wrong can when you use X-Pando because the one formula holds anything carried in metal pipe. Here are a few X-Pando uses.

Ammonia Lines  
Diesel Engines  
Oil Burners  
Freon Lines  
Refrigerant Lines  
Fuel Lines  
All Cargo Lines  
Pumps

Purifiers  
CO2 Lines  
Gasoline Lines  
Condensers  
Steam Lines  
Hot Water and all other lines

## X-PANDO PIPE JOINT COMPOUND

Expands as it sets — ends leaks permanently, corrects imperfections in threads, smooths flanged faces. Expands and contracts with pipe movement. Not affected by vibration, high temperature, deflection, or pressure. DISTRIBUTORS EVERYWHERE Get X-PANDO from your local Mill Supply House.



## X-PANDO CORPORATION

43-15 - 36th Street • Long Island City, N. Y. • STILwell 4-7180

Canadian Distributors: LaSalle Products Ltd. 159 Jean Talon St. W. Montreal, Quebec, Canada

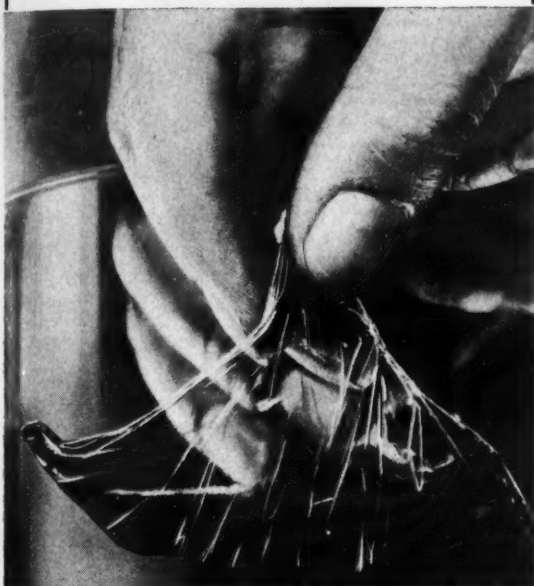
When inquiring specify CEP5564 — see information request blank, pgs. 2-3



# TYGON TEMPRO-TEC

*provides*

**AN ELASTIC, EASILY REMOVED FILM  
FOR TEMPORARY PROTECTION OF  
HIGHLY POLISHED SURFACES AGAINST  
RUST, TARNISH, DUST AND CORROSION**



● Tygon Temp-ro-tec air dries within a few minutes at normal room temperatures to form a sturdy, durable, easily removed elastic film, unaffected by oil, grease, corrosive atmospheric fumes or condensates. It will not become brittle under exposure to sunlight; is unaffected by active oxidizing agents, or by water, alcohol, or brine solutions.

Tygon Temp-ro-tec easily strips free, peeling off as a complete film, without danger of injury to the surface beneath.

Tygon Temp-ro-tec provides excellent temporary protection for highly polished surfaces against rust, grease, finger markings, dust, scratches, etc. It is likewise an effective tarnish preventative for sterling silver, plated silver, chrome, nickel or gold, copper and other metals. It is ideal for masking parts in hard chromium plating.

Available in crystal clear, or transparent colored formulations for ready identification purposes. May be applied by brushing, dipping, spraying, or roller coating.

**U.S. STONEWARE**  
ACID PROOF  
ENGINEERS, MANUFACTURERS, ERECTORS OF CORROSION RESISTANT EQUIPMENT  
AKRON, OHIO

When Inquiring specify CEP5565 — see information request blank, pgs. 2-3

## MATERIALS

### New Cellulose Fabric Substitute For Scarce Materials

*Successful use as alternate for leather, cork and latex indicate adaptability*

**Uses** — First successful commercial use as insole fabric in shoe industry has lead to its adoption by manufacturers of linoleum, leather goods and gaskets and other products. In a number of instances its value as a cork and leather substitute is indicated, as well as in some applications employing latex.

**Features** — Product has often proved superior to material replaced.

**Description** — This cellulose fabric was discovered during research experiments on filter material for gas masks. Its properties and apparent adaptability to widely varying requirements make it a possible solution to the material problems faced by some organizations.

BROWN CO., Dept. CEP, 500 Fifth Ave., New York, N. Y.

When Inquiring specify CEP5566 — see information request blank, pgs. 2-3

### Animal Hide Ready-to-Use Glue

*Has wide variety of industrial applications,  
can be diluted with water*

**Uses** — Successful applications of this product are reinforcing weaker adhesives, in the manufacture of gummed and coated papers, finishing textiles, operations in shoe industry, ingredients of leather dressings and as a general purpose cold glue ready to use. Replaces dry hide or bone glue or technical gelatins.

**Features** — Has no objectionable odor. Clear, light in color.

**Description** — Liquid animal hide glue for industrial users. Has properties similar to fish glue. Contains no casein, vegetable or fish glue. A viscous syrupy mucilage that is a strong adhesive. Liquid at temperature of 60 degrees F. Shipment during cold weather may cause jelling but short storage at room temperature will liquify again. Glue may be diluted with warm water. Not a waterproof glue. Sold only in barrel lots. Quantities of gallon or more on trial orders. Identified as Kem Liquid Glue No. 344.

KEM PRODUCTS CO., Dept. CEP, 229 High St., Newark, N. J.

When Inquiring specify CEP5567 — see information request blank, pgs. 2-3

### Plasticizer for Ethyl Cellulose

*Light colored synthetic ester, non-volatile,  
non-drying, non-corrosive*

**Uses** — For plasticizing ethyl cellulose for sheeting, molding, extruding and also for its use in lacquer films.

**Description** — This is a light colored synthetic ester known as "Theop", commercially available. It is non-volatile, non-drying, non-corrosive and completely compatible with ethyl cellulose. It has excellent solvent action and will dissolve ethyl cellulose in the cold. In ethyl cellulose formulations for molding, 30% "Theop" exhibits no exuding, discoloration or other deleterious characteristics, either initially or on extended aging tests.

GLYCO PRODUCTS CO., Dept. CEP, 230 King St., Brooklyn, N. Y.

When Inquiring specify CEP5568 — see information request blank, pgs. 2-3



**P  
PLY  
Y** PIONEERS OF SKIN PROTECTION IN INDUSTRY  
**The MILBURN Co.**  
BILROD MICHIGAN

When Inquiring specify CEP5569 — see information request blank, pgs. 2-3

### Remember that WYO-LITE PLASTIC Insulation



*Covers*  
**1500**  
*sq. feet  
per ton*

#### Covering Field Boiler with WYO-LITE

WYO-LITE Plastic Insulation gives you much more for your money than other types of insulation because **ONE TON COVERS 1,500 SQ. FT., 1" THICK.** The insulating aggregate is expanded mica made from vermiculite ore. The ore has been expanded, from 15 to 20 times in volume, in a patented furnace. WYO-LITE is light, weighs only 14 to 15 lbs. per cubic foot applied. It is 100% reclaimable up to 1,200° by re-mixing with water — there is no waste nor loss of efficiency. WYO-LITE possesses high, permanent and definite insulating values, and many large corporations have standardized on it because of its high efficiency. It is successfully used on all types of furnaces, boilers, ovens, dryers, fittings, hot water tanks, etc., etc.

*Write for Details and Prices*

**WYO-LITE INSULATING PRODUCTS**  
4613 East 71st St., Cleveland, Ohio

**1 Ton of Wyo-Lite Covers 1500 SQ. FT.**

When Inquiring specify CEP5570 — see information request blank, pgs. 2-3

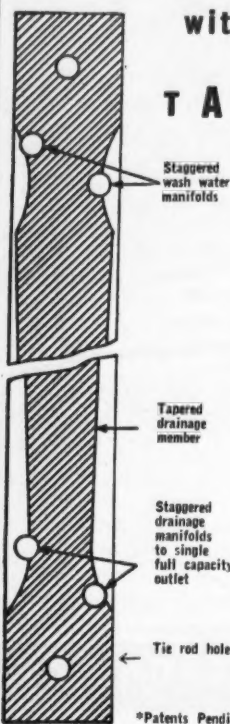


## THE FILTER PLATE

with

# TAPERED

### DRAINAGE CHANNELS to give Extra Capacity



The ever-increasing depth of the channels in the F-M FREEFLOW Filter Plate\* takes care of the progressive inflow of filtrate through the cloth without it backing up. This means extra capacity over that of ordinary plates. Staggered drainage manifolds mean that the section through the plate at that particular point has not been weakened by the borings. This means a longer lasting plate.

Both features suggest that the F-M FREEFLOW Filter Plate is the better buy. Why not try one and find out for yourself? In writing, give full details of your problem in addition to size of plate desired. There are several different materials of construction and we would like to know the solution being filtered before making recommendations.

**Filter Media Corp.**  
Irvington-on-Hudson, N. Y.  
Chicago St. Lake City

\*Patents Pending

When inquiring specify CEP5571 — see information request blank, pgs. 2-3

## MITCO

**THE OPEN  
STEEL  
FLOORING  
THAT'S 90%  
OPEN**



Typical Mitco installation in large central station.

With its rectangular openings . . . and freedom from bolts and rivets . . . Mitco Open Steel Flooring provides an open area of 90%, insuring maximum light and ventilation. Its square edge steel bars provide strong and safe walking surface. Each Mitco panel is a strong, integral unit over which concentrated loads are distributed without lateral deflection.

Write for complete data on Mitco Open Steel Flooring, Mitco "Shur-Site" Treads for stairs, ladders, etc., and Mitco Armorgrids for industrial floors, loading platforms, etc.

### HENDRICK MANUFACTURING CO.

CARBONDALE, PENNA.  
30 CHURCH ST., NEW YORK  
Sales Offices In Principal Cities

Also manufacturers of perforated metals, perforated metal screens and decorative grilles; light and heavy steel plate construction.

When inquiring specify CEP5572 — see information request blank, pgs. 2-3

## MATERIALS

### Non-Etching Alkali Cleaner Gives Aluminum Water-Shed Surface

*Cuts cleaning time, leaves no oxide coating,  
removes oil, primer and lacquer*

**Uses** — To clean sheet aluminum to a perfect water-shed. Originally developed and used to provide proper surface conditioning of aluminum in a minimum of time prior to welding.

**Features** — Cleans without building up oxide coating.

**Performance** — Panels of "Alclad" aluminum, 1 x 5 ins. taken from .016, .032 and .051 stock were used to test the product for cleansing action and freedom from etching. To determine conclusively that this cleaner would not etch any type of aluminum a deliberate selection was made of panels previously etched in an alkali etching solution and the cleaner inhibited against etching metal in this condition. Aluminum panels were dipped into S. A. E. 50 lubricating oil and allowed to drain for one hour at room temperature. Then submerged into cleaning solutions at concentrations of 4 and 8 oz. of cleaner per gal. of water at 212 degrees F. Complete removal of oil to give a perfect water-shed was accomplished by the 4 oz. solution in one minute and 32 seconds and by the 8 oz. in 42 seconds. Panels coated with approved zinc chromate primer and with both primer and a coat of lacquer and air dried for 48 hours were submerged in 8 oz. solution at 212 degrees F. Primer alone and primer and lacquer were completely removed in 5 minutes.

**Description** — This alkali type cleaner is identified as Nielco Lab. No. 1167.

NIELCO LABORATORIES, Dept. CEP, 19720 Florence Rd., Detroit, Mich.

When inquiring specify CEP5573 — see information request blank, pgs. 2-3

### Concrete Curing and Waterproofing

Simple, speedy method of curing concrete employing a new type of transparent curing compound applied with a spray device is described in recent issue of manufacturer's publication. Photos showing method being utilized and comparative resistance and strength of properly cured concrete and that not receiving proper attention are of particular interest. In addition there are illustrations and text describing the waterproofing of brick and concrete roofs. Available upon request.

TRUSCON LABORATORIES, Dept. CEP, Box 69, Milwaukee at Grand Trunk R.R., Detroit, Mich.

When inquiring specify CEP5574 — see information request blank, pgs. 2-3

### Have You A New Product?

If you have recently developed a new or improved product, a piece of laboratory or plant equipment or a new material, of specific interest in any line of chemical and process manufacturing . . . send it to our Editors. Through CHEMICAL EQUIPMENT PREVIEW'S editorial pages they will introduce it to this great field . . . with more than 27,000 copies of this publication covering every plant. This service costs you nothing, and there is no obligation. Write—The Editors.

**CHEMICAL EQUIPMENT PREVIEW**  
737 N. Michigan Avenue

Chicago

Illinois

## Edmont Rubberized Fabric INDUSTRIAL GLOVES

Hand protection at its best with these liquid-proof, long wearing gloves. The rubber coating is reinforced with strong fabric — no snagging or tearing. Pliable on the hands and efficient to work with. As quickly on and off as a pair of canvas gloves. Three types of coating for every industrial need. Sizes for both men and women.

**SYNTHETIC "Y"** — Exceptionally high resistance to oil, grease and all petroleum solvents as well as acids, chemicals and caustics. Long wear economy. Very flexible.

**NEOPRENE** — Oil proof and acid resisting. Best type for handling hot materials. Also where sharp and jagged edges are involved. A tough coating for heavy duty work.

**RECLAIM-LATEX** — For handling weak acids, caustics and corrosive materials. A popular glove for lighter work not involving oil, grease or other rubber solvents. Good abrasion resistance.

For further information, samples and prices, see leading distributors or write direct, briefly describing operation involved, materials handled and temperature conditions.



**EDMONT MANUFACTURING COMPANY**  
560 Orange St. Coshocton, Ohio

When inquiring specify CEP5575 — see information request blank, pgs. 2-3



Knit Wrist



10" Gauntlet



12 1/2" Gauntlet

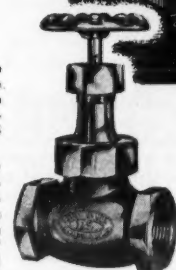
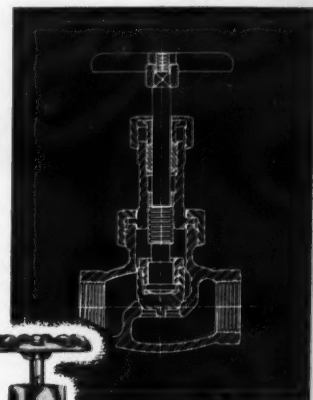


10" Gauntlet



14 1/2" Gauntlet

**...virtually  
unaffected  
by oxidation  
and corrosion**



ALOYCO Number 40, Union Bonnet type Globe Valve with Screwed ends, illustrated, is made in sizes 1/4" to 2" inclusive, in Chrome Nickel 18-8S and 18-8SMc.

This valve is typical of the many ALOYCO products now performing efficiently and dependably for war production. It is facilitating the Victory Program by minimizing work "hold-ups" caused by contamination and corrosion.

ALOYCO Stainless Steel Valves and Fittings are proving their superiority in the Chemical, Process and Food Industries and reasonably prompt shipments can be made on priority ratings.

ALOYCO STEEL PRODUCTS COMPANY, INC.  
1300 West Elizabeth Avenue Linden, New Jersey

**ALOYCO** STAINLESS STEEL VALVES AND FITTINGS

When inquiring specify CEP5576 — see information request blank, pgs. 2-3

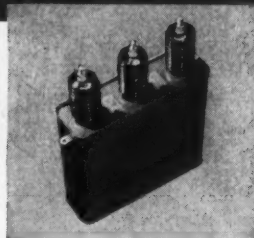
GATE VALVES  
GLOBE VALVES  
Y VALVES  
CHECK VALVES  
LEVER THROTTLE  
GATE VALVES  
TANK VALVES  
SCREWED FITTINGS  
FLANGED FITTINGS  
GAUGE GLASS FITTINGS

CHEMICAL EQUIPMENT PREVIEW



## TO BOOST WIRING CAPACITY WITHOUT REWIRING

### INSTALL CAPACITORS



#### You Get

1. A 10 to 40 per-cent increase in circuit capacity (depending on plant power factor).
2. Savings up to 50 per cent over other methods. You conserve copper and other vital materials.

**D**OES your plant use induction motors? Induction furnaces? Then the chances are that the power factor is low—that your circuits are “clogged” with reactive current. By installing G-E Pyranol® capacitors you can neutralize this nonworking current and so permit the entire system to carry more useful current.

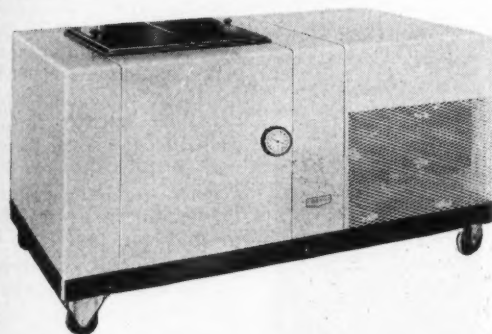
Important, too: if your power contract contains a power-factor penalty clause, you will realize savings in power cost.

Ask your G-E local office for an estimate of the increase in capacity and savings you can effect. Bulletin GEA-77. General Electric, Schenectady, N. Y. \*Reg. U.S. Pat. Off.

**GENERAL ELECTRIC**

When inquiring specify CEP5577 — see information request blank, pgs. 2-3

## KOLD-HOLD



### for CONTROLLED Temperatures

Control the temperatures required for your synthetic rubber, chemical and pharmaceutical processing with KOLD-HOLD Industrial Sub-Zero Machines. Range is from plus 10° F. to specified sub-zero degrees . . . capacities from 2 to 11 cubic feet. Efficient, economical, accurate. Send now for full details.

NEW YORK — 1819 Broadway — Circle 63092  
CHICAGO — 201 N. Wells — Randolph 3986  
LOS ANGELES — 1015 W. Second — Michigan 4989

**KOLD-HOLD MANUFACTURING CO.**  
434 N. Grand Ave., LANSING, MICH., U. S. A.

When inquiring specify CEP5578 — see information request blank, pgs. 2-3

## MATERIALS

### New Quick Drying Chemical Proof Paint from Domestic Waxes

*Replaces manufacturer's chlorinated rubber product for protection of chemical equipment and structures*

**Uses** — Chemical proof paint for the protection of chemical equipment and structures. Designed to replace chlorinated rubber product — now unavailable. Applications to textile, glass, plating, alkali production operations.

**Features** — Manufacturer states that product is alkali resistant, acid resistant. Also resists organic acids (acetic, formic,) alcohol resistant and water-proof. Fast drying — approximately 30 minutes.

**Description** — Product is made from domestic waxes, readily available. Made in India Red and Black only. Is very thick and fast drying. High gloss. Applied by spray or brush. Product is named Rust Eter No. 66.

HARRINGTON PAINT CO., Dept. CEP, 1630 Collamer Ave., East Cleveland, Ohio.

When inquiring specify CEP5579 — see information request blank, pgs. 2-3

### Anniversary Booklet Traces Development of Alkali and Chlorine Products

A forty-eight page booklet entitled, “Fifty Years of Chemical Progress,” commemorates the fiftieth anniversary of its publisher, a well known chemical organization. In presenting this historical resume much interesting data regarding the development and preparation of such products as chlorine carriers, bleaching agents, detergents and alkalis is included together with numerous illustrations. Available upon request.

MATHIESON ALKALI WORKS, INC., Dept. CEP, 60 East 42nd St., New York, N. Y.

When inquiring specify CEP5580 — see information request blank, pgs. 2-3

### Manual on Cosmetics

Numerous formulae for manufacture of cold creams, shaving and hair preparations, lotions and other cosmetics are given in a recently issued manual. Specialty chemicals and cosmetic bases are listed as well as suppliers of raw materials and a bibliography of books on cosmetic production. Available upon request.

GLYCO PRODUCTS CO., Dept. CEP, 230 King St., Brooklyn, N. Y.

When inquiring specify CEP5581 — see information request blank, pgs. 2-3

### No Drip, Extra Long Sulphur Tapers

*For fumigating and various sulphur dioxide gas applications; handy for lighting pans, burners*

**Uses** — In exterminating vermin, as a certain and speedy method of lighting sulphur in pans and burners, used in industrial applications such as in the manufacture of sulphite pulp and sulphuric acid or in the sulphuring of fruits, for general fumigation of premises and some receptacles such as garbage cans, for sulphuring emptied barrels and in detecting ammonia leaks. Where sulphur dioxide gas is required.

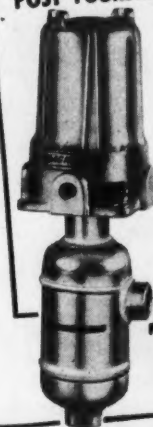
**Description** — These tapers are extra long. No drip. Trial boxes of 100 tapers are available at \$1.00. Further information is available upon request.

KOBBE LABORATORIES, INC., Dept. CEP, 114 East 32nd St., New York, N. Y.

When inquiring specify CEP5582 — see information request blank, pgs. 2-3

POST YOURSELF ON THE CONTROL THAT

# WON'T WEAR OUT



**MAGNETROL LIQUID LEVEL CONTROLS HAVE  
NO BELLOWS, NO PACKING BOX,  
NO ELECTRODES, NO DIAPHRAGM**

**Dependable Level  
Control for  
ANY Temperature  
ANY Pressure  
ANY Differential**

• Because there is no mechanical linkage between the float and the switch, MAGNETROL Liquid Level Controls are supremely dependable. They operate on a simple, time-proven, magnetic principle employing only two moving parts. There is a type for virtually every liquid level problem—regardless of pressure, temperature, differential or liquid.

Send for Full Data Today  
**FRED H. SCHAU ENGINEERING CO., INC.**  
323 W. Huron St., Chicago, Ill.

## MAGNETROL

LIQUID LEVEL CONTROL

When inquiring specify CEP5583 — see information request blank, pgs. 2-3

# MARSH

### Today's Job DEMANDS "Recalibrator" Accuracy

**A**NY well built gauge is reasonably accurate to begin with. But if you've had any experience with gauges, you know that any gauge can be knocked or jolted out of adjustment.

That's where “Recalibrator” accuracy makes a big difference. When a Marsh “Recalibrator” Gauge is knocked out of adjustment, the simple twist of a screwdriver restores it to complete accuracy. Unlike ordinary zero-adjustment, the “Recalibrator” does not merely compensate for error at one point on the dial—it actually re-establishes the proper relation of the bourdon tube to the movement, basically correcting the source of error for all points on the scale.

The “Recalibrator” is available on all Marsh Gauges. Look for it.

**JAS. P. MARSH CORP.**  
2095 Southport Avenue  
Chicago, Illinois

TRAPS • GAUGES • VALVES



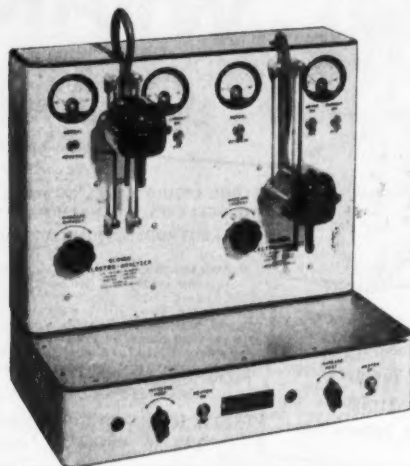
# GAUGES

When inquiring specify CEP5584 — see information request blank, pgs. 2-3



## METALLURGICAL PRODUCTS ANALYZED SPEEDILY AND ACCURATELY

Slomin High Speed Electrolytic Analyzers



**ELECTRODE** design, current efficiency and improved procedures reduce deposition time formerly required by other systems as much as 25 to 40%. Under these high speed conditions hard, smooth, bright and closely grained deposits that firmly adhere to the electrodes are produced, thus assuring good reproducibility of results. Users report an accuracy of 0.01 to 0.04% for routine determinations.

Each model is portable and enclosed in a welded steel case finished in acid resistant baked white enamel. The brushless motor is vapor tight and is therefore unaffected by corrosive fumes.

Both models have an electrically heated, rheostat controlled beaker platform for adjusting solution temperatures, and voltmeters and ammeters so that detailed studies can be made.

Each position of the two place analyzer is a complete circuit that operates independently of the other. Consequently this unit can be used for the simultaneous determination of two samples having widely divergent characteristics.

These are some of the reasons why more than 600 Slomin analyzers are now in use.

A laboratory manual of high speed electrolytic methods of analysis written by G. W. Slomin is supplied with each analyzer. Individual copies are available at \$1.00 each.

- **S-29460 Slomin Electrolytic Analyzer.** One position. 5 Amperes Model, with Heating Plate. For operation from 115 volt, 60 cycle circuits. Each ..... \$155.00
- **S-29462 Ditto.** But for operation from 230 volts, 60 cycle circuits. Each ..... \$160.00
- **S-29465 Slomin Electrolytic Analyzer.** Two positions. 5 Amperes Model with Heating Plate. For operation from 115 volt, 60 cycle circuits. Each ..... \$275.00

Literature on Request

**E. H. SARGENT & COMPANY**  
155-165 E. Superior St., Chicago, Ill.  
Michigan Division: 1959 E. Jefferson, Detroit, Mich.

# SARGENT

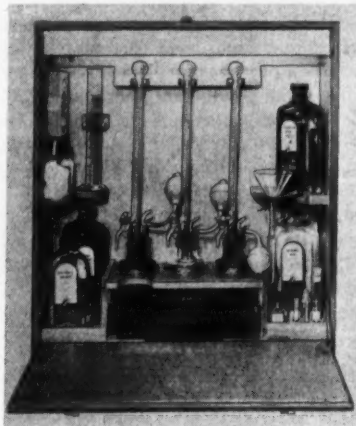
SCIENTIFIC LABORATORY SUPPLIES

When inquiring specify CEP5585 — see information request blank, pgs. 2-3

## INSTRUMENTS OF CONTROL

### Water Test Set In Handy Cabinet

*Includes chemicals, apparatus for determining hardness, alkalinities, chlorides, phosphates*



WATER TEST SET . . in cabinet for table or wall use

**Uses** — For determining hardness, alkalinities, chlorides, phosphates and sulphites in water when any two, three, four of these tests are required.

**Description** — A special cabinet designed for use on table or wall is provided. All the chemicals and apparatus are contained in the cabinet which is so arranged as to hold all materials

securely in position and easily accessible for instant use. In order to provide a convenient work table the cabinet door has been so designed that when opened a portion of it provides an acid-resistant working surface. The cabinet is also fitted with a fluorescent light to give the correct illumination desired for the tests. The protection afforded by the cabinet minimizes breakage and eliminates errors caused by dust or dirt. The first of this series of test sets, Series "A" now available. Descriptive literature sent upon request.

W. H. & L. D. BETZ, Dept. CEP, Gillingham & Worth Sts., Philadelphia, Pa.

When inquiring specify CEP5586 — see information request blank, pgs. 2-3

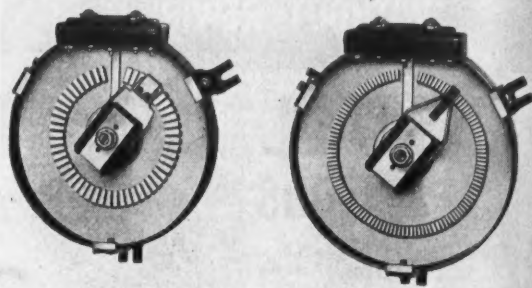
### Pressed Steel Rheostats With Solid Rectangular Contacts

*Provide finer control, smoother operation and economies where interpolating rheostats would otherwise be required*

**Uses** — Designed to attain a finer degree of control in electrically operated equipment, smoother operation and certain economies where interpolating rheostats on occasions would be required.

**Features** — A very large number of steps are possible with this type of contact. The same contact area is retained as with solid round contacts but with smoother operation of the contact arm. The degree of travel of the contact arm and the dissipation of generated heat is equally good or better.

**Description** — Small rectangular contacts can be furnished on thirteen inch or smaller rheostats. Large rectangular contacts can be furnished on eight inch or larger rheostats. Choice of large or small contacts depends upon requirements. For most applications the small contacts are adequate. However, where the rheostat is required to handle high capacity currents, large contacts should be specified. The contacts are of solid metal secured to the resistance element by the special process used on all the manufacturer's plate type rheostats. The contact shoe is a copper-



PRESSED STEEL RHEOSTATS . . with large (left) or small (right) solid rectangular contacts

graphite composition designed especially for rheostat service. Contact shoes are renewable and easily accessible for replacement. Rheostats with rectangular contacts can be furnished with complete enclosures, fittings for conduit connections, motor drives and with accessories for floor, back of board and concentric mounting. Fixed and adjustable stops to protect control equipment can be provided. Plate sizes include: 6, 8, 13, 15½, 18 in. These and other rheostats are listed and described in bulletin 60 available upon request.

WARD LEONARD ELECTRIC CO., Dept. CEP, Mount Vernon, N. Y.

When inquiring specify CEP5587 — see information request blank, pgs. 2-3

### Heating Regulator Operated By Changes In Outdoor Temperature

*For installations that are not well controlled by a single thermostat*



HEAT REGULATOR . . is controlled by outdoor temperature

**Uses** — To regulate the heating system in factories and office buildings. Intended for those installations which cannot be satisfactorily controlled from a single thermostat.

**Features** — Heat supplied to the building is in proportion to the heat loss from the building and is not dependent upon the temperature in any particular room.

**Description** — It maintains the desired indoor temperature by varying the "heat on" periods in accordance with outdoor temperature changes. System provides better temperature control with reduced fuel costs because it is completely automatic. It supplies heat only when needed and it controls throughout the entire heating season. Readily installed in any new or existing building for any type of heating system whether fired by gas or oil burner, stoker or central station steam. Descriptive bulletin — F-1647-1 available on request gives data on this equipment known as "Econostat."

**BARBER-COLMAN CO., Dept. CEP, Rockford, Ill.**

When inquiring specify CEP5588 — see information request blank, pgs. 2-3

CHEMICAL EQUIPMENT PREVIEW



## INSTRUMENTS

### New Explosion Proof Timers

*Available with housing for panel board mounting and for remote control*

**Uses** — These explosion-proof timers are designed for operations in atmosphere which contains gasoline, naphtha, petroleum, benzol, acetone, lacquer solvent, natural gas and similar products.

**Description** — The several models in this line of explosion-proof timers are designed to meet various requirements. The illustration shows an explosion proof time relay which is laid out for panel board mounting with the setting knob and dial projecting. This same housing may also be used with another model in this line of timers with a small relay where it is desired to control it from remote located momentary start button. Complete information regarding application of these timers available upon request.

R. W. CRAMER CO., Dept. CEP, Centerbrook, Conn.

When inquiring specify CEP5589 — see information request blank, pgs. 2-3

### Industrial and Research Laboratory Equipment

Recent issue of house publication of industrial and research laboratory supply organization features a variety of equipment and products including the "Spectrophotometer," for spectral transmission measurements, plastic microscope cover clips, vacuum pumps and a large variety of laboratory instruments and equipment. "Cenco News Chats," No. 38.

CENTRAL SCIENTIFIC CO., Dept. CEP, 1700 Irving Park Road, Chicago, Ill.

When inquiring specify CEP5590 — see information request blank, pgs. 2-3

### High Altitude Chambers, Temperature & Humidity Cabinets, Constant Temperature Bath Tables

High altitude chambers with temperature ranges from -70 degrees to 140 degrees F and weathering cabinets, constant temperature bath tables, temperature and humidity cabinets and listings of installations are presented in a twelve-page-two-color booklet, attractively illustrated. Applications and specifications of installations listed are given. Booklet available on request.

TENNEY ENGINEERING, Inc., Dept. CEP, 8 Elm St., Montclair, N. J.

When inquiring specify CEP5591 — see information request blank, pgs. 2-3

### Colorimetric System pH Testing Set in Compact Case

*Covers pH range from 5.2 to 8.6; accuracy is plus or minus 0.1; packed in compact case*

**Uses** — As a testing set with special features in the colorimetric system for pH determination.

**Features** — It requires less than 0.5 ml. of the sample to make the desired determination. Accuracy of the test is plus or minus 0.1. Turbidity and color in the sample does not interfere with the pH determination and actual determination can be made in one minute or less.

**Description** — Standard set covers pH range of 5.2 to 8.6 and is available in a compact case which includes all necessary glassware, indicators and full instructions for making tests.

LAMOTTE CHEMICAL PRODUCTS CO., Dept. CEP, Towson, Md.

When inquiring specify CEP5592 — see information request blank, pgs. 2-3

**Because they have much greater exterior heat transfer surface than plain bare tubing...**

SECONDARY HEAT TRANSFERRING SURFACE — SHOWN IN BLACK



BROWN FINTUBE



PLAIN BARE TUBE



**One foot of BROWN FINTUBE does the work of 4 to 10 feet of plain bare tubing**

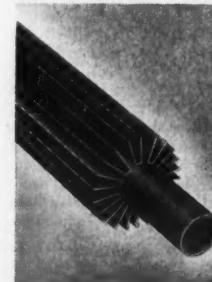
## And Helps Solve Your Heat Transfer Tubing Problem!

● Through the use of Brown Fintubes, having the proper number and depth of fins, it is now possible—in many heat exchanging operations—to proportion the primary and secondary heat transfer surfaces to the heat transfer co-efficients of the materials being handled. This avoids the use of hundreds, sometimes thousands, of feet of bare tubing to satisfy the heat transfer surface requirement of the commodity having the lower heat transfer co-efficient—And permits a fewer number or shorter Brown Fintubes to be used for a given heat transfer service than if plain bare tubes were used, resulting in less pressure drop, less weight, smaller shells, much increased heat transfer capacity, and—specially important these days—substantial savings in war-scarce tubing.

Because the fins are resistance welded and integrally bonded onto the center tube or pipe—an exclusive feature—Brown Fintubes avoid the operating difficulties of mechanically bonded tubes and assure users of highly efficient heat transfer and trouble-free operation.

More than 1,400,000 square feet of Brown Fintube surface is already in use.

Brown Fintubes can be obtained in original heat transfer equipment from all heat exchanger manufacturers,—or substituted in existing shells for bare tubes by making a few simple changes in tube sheets, etc. Recommendations based on your particular flow, pressure, commodity and other conditions—or a descriptive folder—furnished gladly—Investigate Brown Fintubes today!



### WIDE RANGE OF SIZES

Brown Fintubes are available with any commercial size low carbon steel center tubes from ½" to 7" O.D. with from ½" to 1½" low carbon steel fins or 4-6 chrome steel fins;...and 18-8 chrome nickel steel center tubes with 4-6 chrome, or 18-8 stainless steel fins. Tubes can be lined with copper, zinc, lead or aluminum if desired when corrosive or other special commodities are to be handled within the tube.

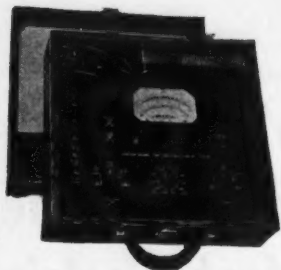
**THE BROWN FINTUBE CO.**

119 FILBERT STREET · ELYRIA, OHIO

When inquiring specify CEP5593 . . . see information request blank, pgs. 2-3



# INDUSTRY KEEPS FIT ELECTRICALLY WITH WESTONS



Industry's production figures bear testimony to the outstanding contribution plant maintenance men are making to war plant efficiency. Despite obstacles such as materials' scarcities and limited manpower, electrical equipment—old and new—is being kept constantly fit for full-scale output.

As part of the efficient maintenance combat team, WESTON test instruments play an important role. For in addition to their trustworthy indications, they also provide features which greatly simplify preventative maintenance procedure. In less time—at far lower cost—electrical equipment is being kept fit with dependable WESTONS. Weston Electrical Instrument Corporation, 586 Frelinghuysen Avenue, Newark, New Jersey.

## WESTON Instruments

When inquiring specify CEP5594 — see information request blank, pgs. 2-3

★ ★ ★ ★ ★

**SERVE THE NATION by CONSERVING FUEL**

*Simplified* **FYRITE CO<sub>2</sub> Analyzer**

**INSTANTLY REVEALS  
FUEL WASTE!**

**Makes ACCURATE Flue Gas Tests EASY**

America's all-out war effort demands utmost fuel conservation. The FYRITE "Orsat" CO<sub>2</sub> Analyzer is an amazingly simplified and practical aid in cutting stack losses. The FYRITE makes flue gas tests easy. It is conveniently held in the hand while analysis is taken; accurate within 1/2 of 1% CO<sub>2</sub>; spill-proof; cold-proof; rugged, durable, compact. More than 7000 in use.

**RETURN COUPON BELOW.** Obtain new bulletin on FYRITE and learn how to get immediate delivery under priority regulations.

**SEND BUL. 338 on FYRITE "ORSAT"**

Name \_\_\_\_\_

Address \_\_\_\_\_

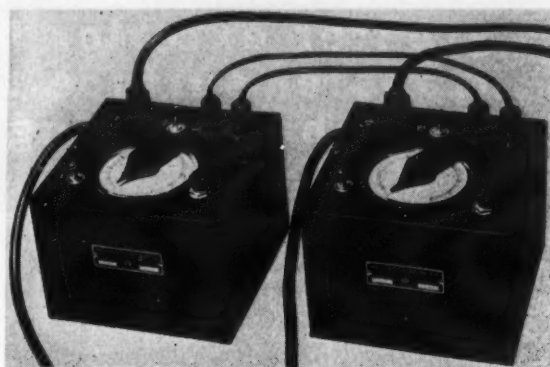
City \_\_\_\_\_ State \_\_\_\_\_ E

**\$18.50 COMPLETE**  
WITH INDUSTRIAL  
TYPE FLUE FILTER

**BACHARACH**  
Industrial Instrument Co.  
7000 BENNETT ST.  
PITTSBURGH, PA.

When inquiring specify CEP5595 — see information request blank, pgs. 2-3

## INSTRUMENTS



ELECTRONIC TIMERS . . can be connected for recycling (above) or used for single actuations

### Short Period Timers Used In Sequence Timing and Recycling

*Adjustable timing relays with immediate automatic  
resetting for timing periods from 1/20th second*

**Uses** — The function of the electronic timer described here is to close or open an electrical circuit for a present time interval. Its use is indicated wherever short timing periods which have to be accurately controlled are required.

**Features** — Timer provided with load outlet carrying 110 volts and with terminals for opening or closing an external circuit. Powered and unpowered loads can be switched simultaneously. By changing connections which are easily accessible, both loads can be made to "make" or to "Break" during the timing period. Timer can be actuated either by push button provided on panel or by external switch such as foot pedal or machine-operated switch to be connected to the remote control socket of timer. Any number of standard units can be combined by simply connecting the sequencing outlets of one timer with the remote control socket of the next timer. For recycling, it is only necessary to connect the sequencing outlet of the last timer to the remote control socket of the first timer.

**Performance** — Timing from 1/20 second up. If time control knob is set for shortest period, timer opens or closes for an interval as short as 0.05 second. Immediate automatic resetting. After completing the timing period it does not take more than 1/60 second for the timer to be ready for next operation.

**Operation** — Operating principle is comparable to hour glass. When timer is actuated, a charged condenser begins to discharge, the rate of discharge being controlled by adjustable resistors. Simultaneously with the actuation, amplifier tubes energize the relay. When the discharge of the condenser is completed, the amplifier tubes become inoperative and the relay is de-energized. Operates without clockwork, motor or mechanically moving part, except relay.

**Description** — Powered load outlet is a standard socket located on panel. Connections for the unpowered load are made by means of leads which pass through an opening in the casing and are connected to terminals accessible after removing the bottom plate. Panel also carries remote control socket, sequencing outlet, on-and-off switch, steady switch which can be used to hold relay in energized position and a time control knob with dial. Time control knob provides stepless control of the timing interval. Dial divisions arranged in approximate geometric progression. Regulation is as fine in low range as in high range. Timer opens or closes for the selected interval irrespective of

## CUT PRODUCTION COSTS with BECKMAN pH CONTROL

In industry after industry production processes are being speeded up . . . vital time and raw materials are being saved . . . and "rejects" are being cut to a new low by Beckman pH controlling the pH (alkalinity or acidity) of process solutions.

Probably YOU can produce more — faster — with less waste — by adopting this modern production tool. Have you investigated?

### GET THE FULL STORY:

If you now use water or water solutions anywhere in your plant — in chemical or electrochemical processes, in waste disposal, in boiler feed water — anywhere — investigate now what you can do with Beckman pH Control. Our engineering staff will be glad to study your problems and make recommendations.



**WHAT EVERY EXECUTIVE SHOULD KNOW ABOUT pH:** Do you know how pH fits into modern production processes? Its importance? The latest developments? Send for your free copy of this helpful guide to present-day pH methods.

## WHERE

BECKMAN  
pH Control is  
Saving Money

- Brewing
- Ceramics
- Chemicals
- Electroplating
- Food Industries
- Leather
- Industrial Waste
- Industrial Cleaners
- Petroleum Industries
- Ore Refining
- Pharmaceuticals
- Plastics
- Pulp and Paper
- Sewage Plants
- Soap Making
- Textiles
- Water Supply

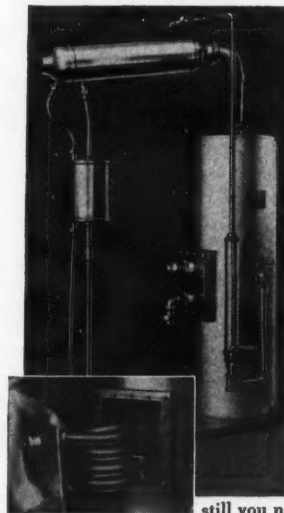
World's Largest Manufacturer of Glass Electrode pH Equipment

NATIONAL TECHNICAL LABORATORIES • South Pasadena, Calif.



When inquiring specify CEP5596 — see information request blank, pgs. 2-3

## Just Two Things to Do to keep Barnstead Water Stills working Better and Longer



**One**—If you have a Barnstead electric or gas operated still, make sure there is enough water in the evaporator before starting. This will prevent the heating elements from burning out.

**Two**—Clean your still regularly. It will insure top efficiency at all times. Barnstead Stills are easy to clean. The extra duty type stills for distilling hard water have quick-opening hand holes that give you easy access to the steam-heating coil.

Send today for complete operating and service instructions. State the serial number of the still you now have, in your letter.

**Barnstead**  
STILL & STERILIZER CO. INC.

66 LANESVILLE TERRACE, FOREST HILLS, BOSTON, MASS.

When inquiring specify CEP5597 — see information request blank, pgs. 2-3

CHEMICAL EQUIPMENT PREVIEW



## CLOSER RECORDING



### At Less Cost Per Year

You'll get day-in, day-out temperature records that are accurate to a finer degree than your eyes can read, when you put Foxboro Temperature Recorders on the job.

Quick response prevents pen-lag errors . . . fatigue-free construction assures permanent accuracy. And their years of faithful service with only routine

maintenance will cut your costs for temperature records to a new annual minimum. Users report that these instruments still run the scale perfectly after 15 or more years of use.

Write for detailed Bulletin 198-2. The Foxboro Company, 190 Neponset Ave., Foxboro, Mass., U. S. A. Branches in 25 principal cities.

**FOXBORO**  
Reg. U. S. Pat. Off.

TEMPERATURE  
RECORDERS

When inquiring specify CEP559S — see information request blank, pgs. 2-3

When you want accurate and dependable automatic temperature or humidity control for Industrial Processes or Air Conditioning Systems call in a Powers engineer. With a very complete line of self-operating and compressed air operated controls we are well equipped to fill your requirements.

**Write for Circular 2520**

**THE POWERS REGULATOR CO.**  
2756 Greenview Avenue, CHICAGO  
Offices in 47 Cities—See your phone directory

**50 Years** of Temperature and Humidity Control

When inquiring specify CEP5599 — see information request blank, pgs. 2-3

## INSTRUMENTS

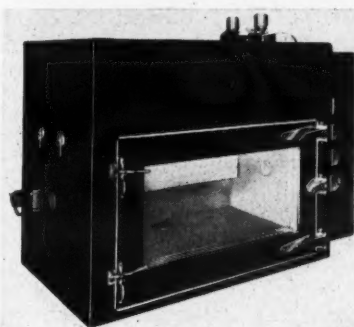
how long the push button is pressed or the remote control impulse lasts. Loads easily changed from "normally open" to "Normally closed" or vice-versa. Loads are independent from each other. Timer operates with both "normally open," both "normally closed," or one "normally open" and the other "normally closed." Two models: No. 900. 105-125 v. 50-60 cycle AC; up to 1200 watt load (Lower if inductive). For single actuation, sequencing and recycling. No. 910 same as No. 900 but with one load outlet only, either powered or unpowered, either "normally open" or "normally closed," without sequencing outlet, remote control socket, on-and-off switch, steady switch. For single actuation. Timer is housed in crackle finished steel casing, 6 in. x 6 in. x 4 1/2 in.

PHOTOVOLT CORP., Dept. CEP, 95 Madison Ave., New York, N. Y.

When inquiring specify CEP5600 — see information request blank, pgs. 2-3

## Cabinet Tests Instruments Under Cold-Heat Range of —55 C to 70 C

*Completely automatic, controlled from front panel; positive air circulation*



TEST CABINET . . . designed to duplicate service conditions

**Uses** — For testing instruments under extremes of cold and heat. This unit is designed to provide proper facilities for performing both operations in one cabinet and determining extreme ranges at which instruments will maintain accurate and efficient performance.

**Features** — Rapid refrigeration. Cabinet without production load should reach minus 50 degrees C within one hour. Entire operation completely controlled from front panel board on which master switch is located along with the off-fan control, light switch and receptacle switch. Provides positive air circulation.

**Performance** — Range of operating temperature extends from minus 55 degrees C to plus 70 Degrees C. Maintains temperature at any level so that actual service conditions may be created.

**Description** — Test chamber complete consists of a two-stage condensing unit, heat exchanger, liquid sub-cooler, coil or evaporator, expansion valves, cabinet and forced draft strip heater. Also thermostats and other controls and connections. Compressor maintains the refrigerant temperature in the coil and is controlled solely by a pressure switch. Coil in turn cools the chamber by means of recirculation of the air within the cabinet. The coil is located above a divider partition upon which are located fans and dampers controlling the quantity of air passing over the coil. Equipment is designated as Model RTC-1.

AMERICAN COILS, INC., Dept. CEP, Newark, N. J.

When inquiring specify CEP5601 — see information request blank, pgs. 2-3

## Precision TIME MEASUREMENT Automatic or Manual Controls



## NUMEROUS MODELS TO MEASURE TIME IN UNITS OF .01 SECONDS TO 1 HR.

Standard Electric Stop Clocks are rugged, dependable instruments. Controls may be custom built to suit special requirements. Sturdy manual reset. Attractive bakelite case for surface mounting or flush panel mounting.

**THE STANDARD ELECTRIC TIME COMPANY**  
69 Logan St., Springfield, Mass. Branch Offices in Principal Cities  
"STANDARD NAMES EVERY SPLIT-SECOND COUNT"

When inquiring specify CEP5602 — see information request blank, pgs. 2-3



## What is the MOST IMPORTANT PROPERTY of Glass for Laboratory Use?

GLASS HAS MANY PROPERTIES. Each is important. And each can readily be enhanced in glass formulae.

Success in the manufacture of any laboratory glass does not rest upon a particular property but rather upon how successfully that property is combined with all the other properties.

In 1915 Corning Research developed Pyrex brand Chemical Glass No. 774. It was then—and still is—the only balanced chemical glass. In it, the essential properties of chemical stability, mechanical strength and heat resistance were scientifically combined. No one property was enhanced at the expense of another. All were balanced for all-around laboratory use.

But Corning Research did not stop there. The need for special glasses for special uses was recognized. Throughout the years that followed, Corning scientists have developed over 25,000 different formulae.

A typical example of such special glasses is Corning brand Alkali-Resistant Glass No. 728 which is also

suitable for Boron determinations. "Vycor" brand 96% Silica Glass No. 790 is a further example, specially developed for high temperature reactions, rapid chemical analyses or exceptionally accurate work, with a linear coefficient of expansion of .000008 per °C.

Each of these glasses—and the many more developed through Corning Research—emphasizes Corning's ability to produce glass to meet any laboratory requirement.

When careful analysis is made of any comparative test data—when the true importance of any property is evaluated—only Pyrex brand Laboratory Ware, fabricated from the balanced glass, can truly be called the all-around ware for all-around laboratory use.

When you buy laboratory ware, economize. Benefit from Balance. Standardize on Pyrex brand Laboratory Ware.

Pyrex brand Ware and other laboratory glassware, fabricated from special glasses developed by Corning Research, are available from your laboratory supply dealer.

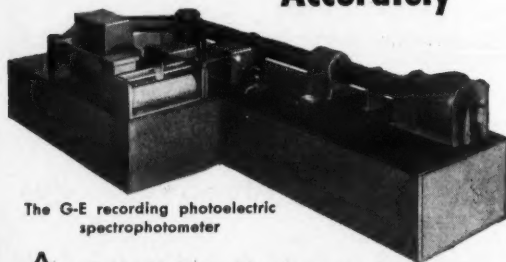
"PYREX" and "VYCOR" are registered trade-marks and indicate manufacture by

**CORNING GLASS WORKS • CORNING, N. Y.**

When Inquiring specify CEP5603 — see information request blank, pgs. 2-3

## TO MEASURE...

### COLOR Quickly and Accurately



The G-E recording photoelectric spectrophotometer

A reliable, high-precision instrument—

For graphic, time-saving measurement of the color of paper, cloth, dyes, plastics, and the like.

Call the nearest G-E office or write for Bulletin GEA-3680.

If you have ANY kind of measurement problem, call or write our nearest office for information on how the G-E Special Products Section can help you meet your individual requirements. General Electric, Schenectady, N. Y.

800 G-5851

**GENERAL ELECTRIC**

When Inquiring specify CEP5604 — see information request blank, pgs. 2-3

## INSTRUMENTS

### Contact Making Clock Emits One To Twelve Impulses Per Hour

*Designed for impulse timing of time recording  
instruments or for use in conjunction with  
maximum demand timers*



CONTACT MAKING CLOCK . .  
for use as impulse timer

**Uses** — Where AC of commercial frequency is used this contact making clock is suitable for service in conjunction with maximum demand meters requiring a very accurate and dependable impulse timing element. It can also be used for impulse timer for various time recording instruments.

**Performance** — Emits one to twelve impulses per hour by momentarily closing a circuit at pre-

determined, fixed and unvarying time intervals with great accuracy. Impulse can be either one, two, three, four, six or twelve per hour. Standard setting is 1/5 second easily adjusted by micrometer screw to change setting. Once set will not vary even under vibration.

**Operation** — The first contact (1), actually making and breaking the circuit, operated by a cam (2), making one revolution every five minutes, which is geared to the 60 minute dial (3) controlling the action of the second contact (4), wired in series with the first contact, closed and opened by operating pins (5) on the dial spaced at predetermined time intervals to determine number of impulses per hour that are to be given. Operating pins are inserted in accordance with requirements. The cam serves as a vernier for the 60 minute dial, gear ratio being 12 to 1. Cam makes one revolution every 5 minutes and has sufficient peripheral speed to time the duration of the impulses with extreme accuracy. The cam operates the first contact every 5 minutes but as the second contact is wired in series the actual impulses are emitted only when the operating pins in the dial have closed the second contact.

**Description** — The motor is of the hysteresis type, (450 RPM on 60 cycles) and consumes approximately 3 watts. It is self-starting and has ample torque to operate the mechanism under the conditions of the intended application. Furnished in either 110 or 220 volts and for any commercial frequency. Has integral, sealed gear train selected for the proper ratio that is necessary. Entire motor unit easily interchangeable. Contacts are of pure silver rated at 1 ampere at 110 volts AC. Inspection window is provided in hinged cover for inspecting time and program. Housing is of pressed steel. Hinged cover with a dust proof fabric gasket is provided with a sealing screw for wire seal. Adapter and terminal block fit standard meter trim. Available in: 115 volts, 60 cycle, 220 volts, 60 cycle and 110 volts, 25 cycle. Identified as Type CYC-4.

R. W. CRAMER CO., Dept. CEP, Centerbrook, Conn.

When Inquiring specify CEP5605 — see information request blank, pgs. 2-3

## SPECIAL INSTRUMENTS

*for Exacting Industries*

As a builder of outstanding precision instruments for service in many diversified fields, the Cambridge Instrument Co. is in a unique position to incorporate valuable experience into the design and construction of special instruments for innumerable special applications . . . for production . . . for testing . . . for research.

### CAMBRIDGE MAKES AVAILABLE:

RECORDING GAS  
ANALYSERS  
MOISTURE INDICATORS  
MOISTURE RECORDERS  
PYROMETERS  
FLUXMETERS

pH METERS and  
RECORDERS  
FABRIC PERMEAMETERS  
GALVANOMETERS  
VOLTAMOGRAPHS  
(—Polarographic Analyses)

And other precision, mechanical and electrical instruments. Send for bulletins describing instruments of interest to you.

**CAMBRIDGE  
INSTRUMENT CO., INC.**

3732 Grand Central Terminal

New York City

When Inquiring specify CEP5606 — see information request blank, pgs. 2-3

*We Don't Grope Blindly When  
Measuring Valuable Stored  
Liquids... We  
Check  
With*  
**LIQUIDOMETER Tank Gauges**  
*"THEY'RE ALWAYS DEPENDABLE"*

Now, more than ever, industrialists realize the importance of having accurate measurements of their stored liquids available at all times. LIQUIDOMETER Tank Gauges insure true, convenient, hazard-free, 100% automatic readings. No pumps, valves, or auxiliary units required to read them. Models are available so that readings can be taken remotely from or directly at the tank. Remote reading types utilize balanced hydraulic transmission system which completely compensates for temperature variations on communicating tubing. Accuracy unaffected by specific gravity of tank liquid.



Approved for gauging hazardous liquids by Underwriters' Laboratories and similar groups. Models available to automatically control pumps, motors, signals or other devices for maintaining minimum or maximum liquid levels.

Write for complete details

**THE LIQUIDOMETER CORP.**  
38-18 SKILLMAN AVE., LONG ISLAND CITY, N.Y.

When Inquiring specify CEP5607 — see information request blank, pgs. 2-3



## INSTRUMENTS

### Instruments for Automatic Density Recordings of Process Liquids

Instruments for the automatic measurement and recording of densities of process liquids are described and illustrated in an eight-page-bulletin, 8½ x 11 explaining how density recorders record the continuous direct measurement of flowing liquid in place of periodic reading by hydrometer and still samples. The text includes further reference to density controllers which is supplied when automatic control of density is important for operating efficiency. Both these instruments have identical measuring systems and both maker's standard charts. Charts used may be read in specific gravity, Baume, Brix or other recognized scales. Illustrations show interior detail of the equipment and also include photos of accessories. Bulletin No. A-264 available upon request.

FOXBORO CO., Dept. CEP, Foxboro, Mass.

When inquiring specify CEP5608 — see information request blank, pgs. 2-3

### Automatic Reduced Voltage Starters

Discussion of the factors that enter into the selection of automatic reduced voltage starters for squirrel cage motors is contained in a new sixteen-page-bulletin. This bulletin also lists a series of other bulletins dealing in detail with automatic resistance starters of various types and sizes. Several of these incorporate a special graphite compression resistors consisting of an insulated steel tube filled with graphite discs. The resistance of this type of resistor is changed simply by applying pressure upon the discs. Stepless adjustment of motor current is thereby obtained. All these bulletins are available upon request.

ALLEN-BRADLEY CO., 1311 South First St., Dept. CEP, Milwaukee, Wis.

When inquiring specify CEP5609 — see information request blank, pgs. 2-3

### New Device Simplifies Making Orifice Meter Computations

*Available in handy pocket model and larger utility size for shop and office use*

**Uses** — This new device has been developed to facilitate orifice meter computations. Handy size for field use will fit into pocket. Also larger utility size.

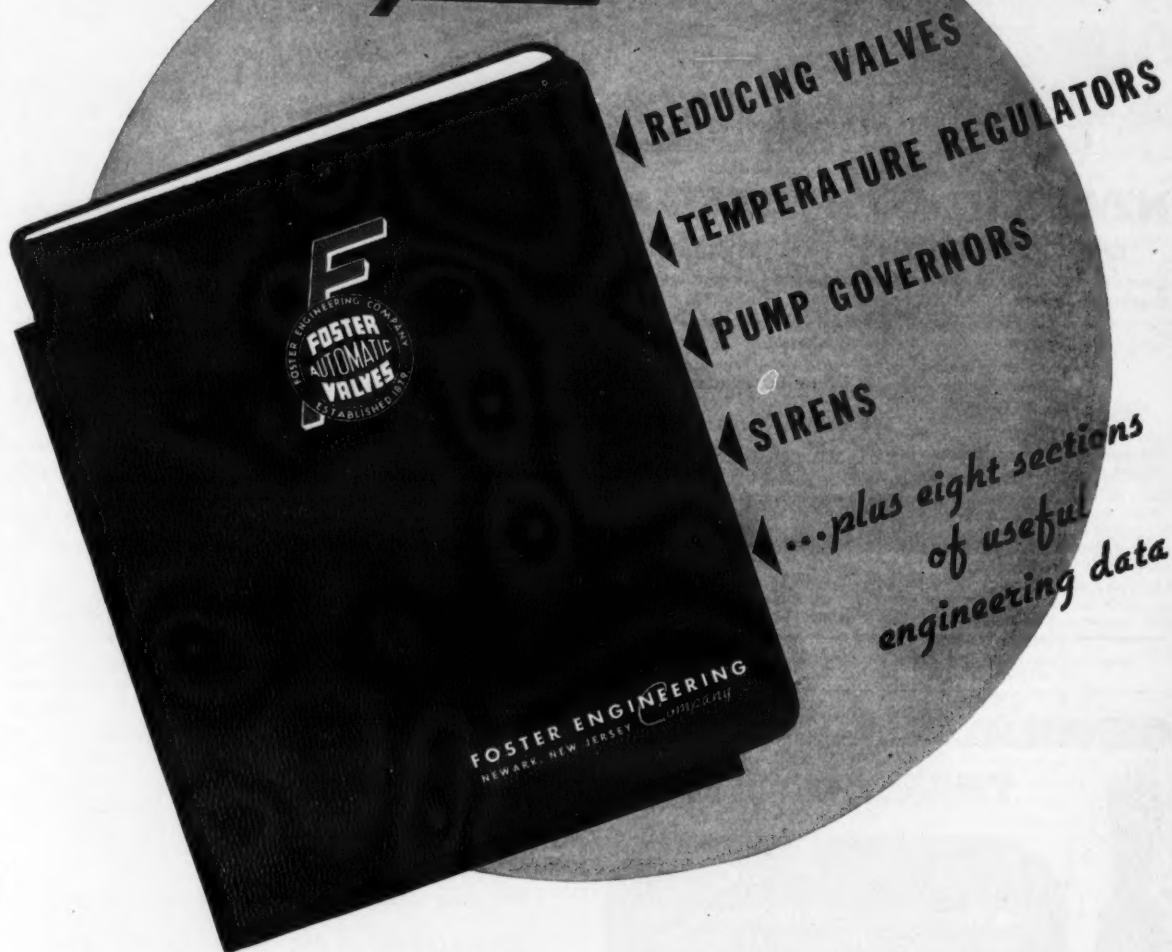
**Features** — Also contains 4 in. engineer's and architect's scale.

**Description** — Device comprises transparent celluloid disc on white opaque back. Provides for quick determination of (1) rate of delivery of gas through an orifice meter, (2) size of orifice to install in a meter, (3) differential to maintain to deliver a desired rate of gas and (4) open flow of a well when using the orifice open flow tester. No coefficient for the orifice is necessary in order to use this instrument but if the coefficient or gas characteristics are known, all corrections are provided on the larger size computer to permit accurate computation. Pocket size instrument is approximately 3 x 5 in. rectangular shape and is designed primarily for orifice meter operations and field men. Utility size is circular shape about 4½ in. diameter, adaptable to office and shop use. Range of delivery, pressures, differential and sizes of orifice cover practically all conditions met in ordinary practice.

SONNEY ORIFICE COMPUTER, Dept. CEP, Central Ave. Extension, Oil City, Pa.

When inquiring specify CEP5610 — see information request blank, pgs. 2-3

# Here is Your handbook on



Are you having trouble with automatic valves — ragged regulation, constant cleaning, repeated repairs and replacements?

Have you a regulation or control problem that hasn't been licked — a service that has been "just too much" for the average automatic valve?

There may be a practical and profitable solution to your problem in this new catalog covering one of the most complete lines of automatic valves, for its content is not limited to a mere "sales story".

Such sections as those on application, operation, installation, and inspection, as well as the inclusion of eight complete sections of engineering data, make this catalog virtually a handbook of useful information.

A copy of this catalog will be sent to executives and engineers in those industries that are "all out" for victory if the request is written on their company's letterhead. Simply ask for Catalog 70.

# FOSTER ENGINEERING

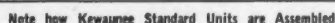
## Company

PRESSURE REGULATORS...RELIEF AND BACK PRESSURE VALVES...AUTOMATIC STOP AND CHECK VALVES...ALTITUDE VALVES...DAMPER REGULATORS...FAN ENGINE REGULATORS...PUMP GOVERNORS...TEMPERATURE REGULATORS...LIQUID LEVEL CONTROLLERS...FLOAT AND LEVER BALANCED VALVES...NON-RETURN AND TRIPLE DUTY VALVES...VACUUM REGULATORS OR BREAKERS...SIGHT FLOW BOXES...STRAINERS...SAFETY VALVES...SIRENS

124 MONROE STREET • NEWARK, N. J.

When inquiring specify CEP5611 . . . see information request blank, pgs. 2-3



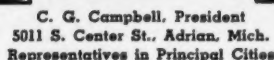


Uses a minimum of critical materials and brings you all these advantages:

- Smarter Uniform Designs
- Greater Working Conveniences
- More Quality Features
- Lower Production Costs
- Easier Installation
- Quicker Deliveries

All models made in Steel and Wood, but only available in Wood for the duration.

**Write for the Keweenaw Catalog.**



When inquiring specify CEP5612 — see information request blank, pgs. 2-3

★ There is an H-B thermometer for testing all types of liquids and semi-solids. If you have some special problem address the H-B technical department who will be glad to aid in its solution. Thermometers, Hydrometers, Thermo-Hydrometers, Temperature Controls—all built by craftsmen thoroughly skilled in precision thermometer manufacture. Write for your copy of fully illustrated catalog.

**H-B INSTRUMENT COMPANY**  
INCORPORATED

**2510 N. Broad St., Philadelphia, Pa.**

**PRECISION SCIENTIFIC INDUSTRIAL INSTRUMENTS**

## H-B THERMOMETERS

When inquiring specify CEP5613 — see information request blank, pgs. 2-3

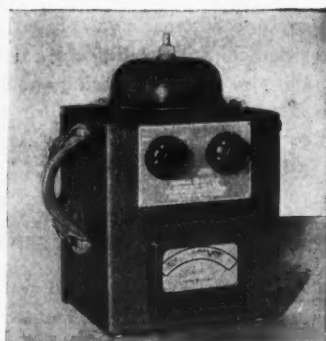
REVERSING DRUM CONTROLLER .  
two horsepower model

**Description** — Reversing drum controller with a built-in polyphase thermal overload unit. The overload unit is of the solder-pot type and is trip free. It cannot be re-set and power reconnected until the drum handle has been returned to the OFF position. In checking requirements motor current ratings and voltage should be specified. Units can also be furnished flanged mounted or in weatherproof inclosure. Model K-304 is Two H.P. 550 V. AC Max. Model K-320 is 5 H.P. 550 V. AC Max. Descriptive illustrated booklet gives information on this and related control devices.

FURNAS ELECTRIC CO., Dept. CEP, Batavia, Ill.

When inquiring specify CEP5614 — see information request blank, pgs. 2-3

*Portable unit, easy to use; does not require a technically trained operator*

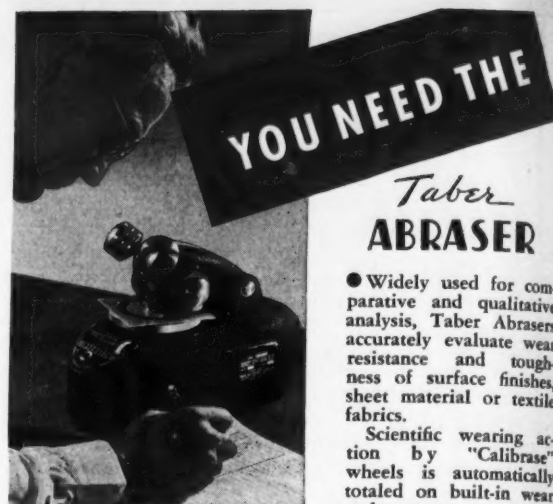


### PORTABLE CREST VOLTMETER

discharges in the insulation of such electrical equipment as motors, generators, and cables; and other repeated

**Uses** — This new device is designed to include the following control service: In case of an overload in any phase, power is disconnected independently of the reversing part of the controller and an overload is signalled by a red indicator through the top of the controller housing.

**Uses** — Designed to measure crest value of voltages which occur at least once per second. The voltage must remain at substantially crest value for at least one millionth of the interval between crests. Typical applications of this instrument are: measurement of ignition voltages in internal combustion engines, measurement of surge voltages caused by corona and surface



With the increasing use of substitute materials Taber Abrasers are absolute necessities in your plant and laboratory.

*Write for Bulletin 4012 describing wide application.*

**TABER INSTRUMENT CORP.**

**111CP Goundry Street**

North Tonawanda, N. Y.

*Designers and Builders of Precision Scientific Apparatus*

When inquiring specify CEP5615 — see information request blank, pgs. 2-3

**FOR QUICK, DIRECT READING**

MERIAM

### WELL TYPE MANOMETER

★ There are many occasions when a direct reading manometer offers distinct advantages over the standard U-Type in taking accurate pressure, vacuum and differential readings. When using the Well Type it is not necessary (as in the case of the U-Type) to add distances above and below reference zero or to make any adjustments of scale.

The illustration shows the popular Table Mounting style, known as Model A-203, widely used in laboratory work. The tight fitting glass cover on the front keeps out dust and dirt, assuring clear visibility at all times. The scale extends the full width of the body behind the Pvrex tube.

This model is for line pressures up to 250 lbs. per sq. in., in ranges from 30" to 100" (equal to a range of from 15 lbs. to 49.2 lbs. using Mercury). Ask for Catalog C-10 for complete description of this and other Meriam instruments.

THE MERIAM CO.

**1989 West 112th St.**

**Cleveland, Ohio**

When inquiring specify CEP5616 — see information request blank, pgs. 2-3





In actual performance, Ohmite Rheostats have been operated over a million times without servicing of any kind. It's the design, the construction, that makes them give such smooth, dependable, close control. You find them on duty in laboratory and production equipment to control the speed of centrifuges, the heat of electric ovens, the intensity of light, and the potentials of electrochemical reactions. Ten sizes from 25 to 1000 watts in stock and special units. Ohmite Engineers are glad to help you.



Write on company letterhead for 96-page Catalog and Engineering Manual No. 40.

OHMITE MANUFACTURING CO.  
4918 Flournoy St., Chicago

When inquiring specify CEP5617 — see information request blank, pgs. 2-3



#### OPERATION

Two probe rods reach into the tank to the levels where pump-on and pump-off operations are required. Actual contact of the probes with the liquid operates a Photo-switch Electronic Control which makes and breaks the pump-control circuit.

**NO FLOAT SWITCHES**  
Photoswitch Level Control operates entirely electronically.

**UNLIMITED LIFE**  
Photoswitch Level Control has no mechanical parts to wear out.

**SAFETY** Photoswitch Level Control passes only microamperes of current through the liquid—is safe with combustibles.

**PHOTOSWITCH Electronic Level Controls**, effective for all conductive and non-conductive liquids and powders, are available for single-level indication or control, on and off pump control at two levels, and boiler feedwater control.

Write for Level Control Bulletin 1100



**PHOTOSWITCH INCORPORATED**

PHOTO-ELECTRIC & ELECTRONIC CONTROLS FOR EVERY INDUSTRIAL PURPOSE  
CAMBRIDGE, MASS. · District Offices IN ALL PRINCIPAL CITIES

When inquiring specify CEP5618 — see information request blank, pgs. 2-3

## INSTRUMENTS

impulse voltages up to 30,000 volts. As a portable crest voltmeter for both laboratory and production testing.

**Features** — Easy to use and technical trained operator is not necessary. Can be used where no electric power lines are available as it has a self-contained battery power supply. Weighs only 23 pounds.

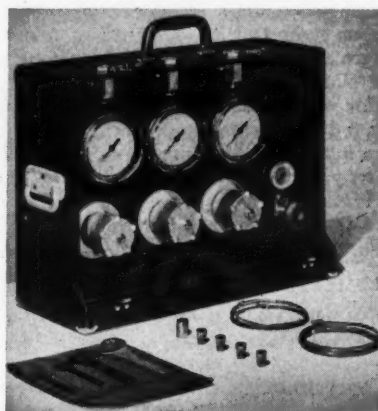
**Description** — Instrument consists essentially of a self-contained capacitance voltage-divider and a battery operated, electronic, crest voltmeter, mounted in a sturdily constructed steel case with corrosion resistant, black crackle finish. Equipped with an aircraft-instrument movement to provide resistance to vibration. Supplied marked and calibrated for any of the following scale ranges: 0-10,000 volts; 0-20,000 volts; 0-30,000 volts. Bulletin GEA 3619 gives more complete specifications.

GENERAL ELECTRIC CO., Dept. CEP, Schenectady, N. Y.

When inquiring specify CEP5619 — see information request blank, pgs. 2-3

## Tester Checks Pressure Gauges While in Panels or Mountings

Accurate to 1/4 to 1% of full scale; tester checks various ranges from 0 to 1000 lbs.



**Uses** — For checking all types of mounted pressure gauges in service without removing them from their panels or mountings, this gauge comparator permits service gauges to be quickly and accurately checked in place without breaking line connections.

### PORTABLE PRESSURE GAUGE TESTER

**Features** — The great savings in time are an advantage, especially whenever there is the possibility of a gauge having been damaged by momentary or sustained over-pressure, sudden pressure release, extreme vibration or shock of any sort.

**Description** — The device is equipped with three laboratory test gauges, accurate to within 1/4 of 1% of full scale and will check various ranges of pressure gauges from 0 to 1000 pounds. Necessary testing pressures are supplied from built-in high capacity air cylinders, which can be charged and recharged as often as required with any clean dry gas, air or oxygen. Pressure loaders mounted below each test gauge make possible an extremely fine degree of pressure control. The loader serves as an accurate pressure reducing valve with built-in automatic relief. Because of its large diaphragm to valve area ratio the tester provides positive pound by pound controlled and maintained accuracy of delivery pressures, whether increasing, decreasing or constant.

GROVE REGULATOR CO., Dept. CEP, 1739 Poplar St., Oakland, Calif.

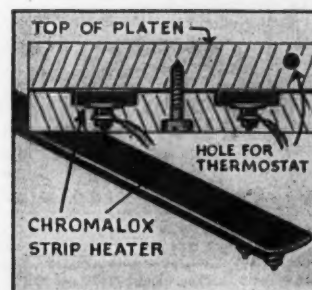
When inquiring specify CEP5620 — see information request blank, pgs. 2-3

## How to use Electric Heat in plastic molding WITH CHROMALOX ELECTRIC HEATING UNITS

In heating movable platens electrically, the most obvious advantage is the entire elimination of flexible pipe lines or joints. Almost equally of advantage, however, is the fact that electric heat has no reasonable temperature limitations, and a plastic molding press so equipped, with little or no trouble can be arranged to meet higher temperature requirements. In many cases, steam heated presses have been converted to electric heat to supply increased temperature need. Another factor is the close temperature control possible only with electric heat, resulting in finer finish and greater uniformity of product.

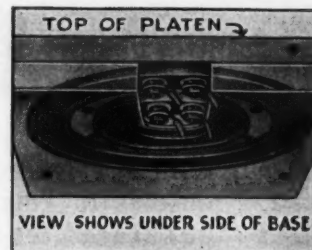
### To install STRIP HEATERS

The base of the platen is milled to admit the strip heaters, spaced sufficiently wide apart to admit of clamping screws between each strip heater, which tightly clamp the heaters to the platen. A clearance of .005+ should be allowed between base and platen to insure closest contact between heaters and platen.



### To install RING UNITS

The application is similar to that above, except that circular grooves are provided in the platen base to receive the ring units. The base is also cut away directly over the terminals. Clamping screws are provided at suitable intervals between the two ring units. A drilled hole in the platen accommodates the thermostat.



### To install CARTRIDGE UNITS

These units may easily be applied in a solid platen by drilling and reaming holes so the units will make a good sliding fit. As terminals project beyond the platen, a protecting terminal cover of sheet stock may be fastened by screws to the side of the platen. When platen and base are separate the units are held in semi-circular grooves in each part, clamping screws completing the assembly.



Have you a molding problem involving heat? All difficulty may disappear if you consider electric heat. Wiegand engineers will work with you at request, and submit authoritative data. No obligation. Mail the coupon with your letterhead, for detailed electric heat information.

**EDWIN L. WIEGAND COMPANY**

7517 Thomas Blvd.

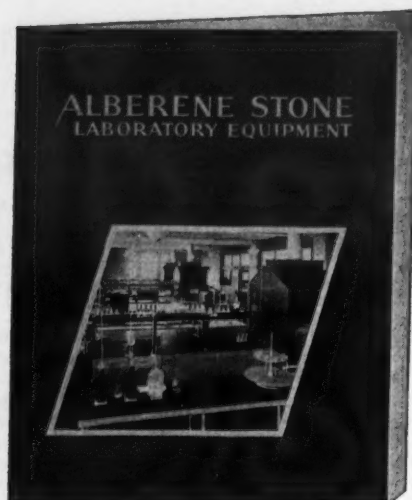
Pittsburgh, Pa.

Send me the CHROMALOX BOOK OF ELECTRIC HEAT.

Name \_\_\_\_\_ Position \_\_\_\_\_

When inquiring specify CEP5621 — see information request blank, pgs. 2-3





**New!**  
**Would**  
**You**  
**like**  
**a copy?**

### SALT SPRAY UNITS

Efficiency and durability of Alberene Boxes are widely recognized. We furnish fully-equipped units; to Navy or your own specifications. Prompt delivery.

Data, specifications and illustrations . . . factual and helpful . . . about Alberene Stone, the material that outlasts the building.

ALBERENE STONE CORP. OF VIRGINIA  
419 4th Avenue, New York

When inquiring specify CEP5622 — see information request blank, pgs. 2-3

## "Anets" LABORATORY CABINETS



**Speed-Up War Work by Providing Automatic Temperature and Humidity Control**

**Used by LEADING FIRMS THROUGHOUT THE U.S.A.**

for DRYING . . . BAKING

- ★ MOISTURE ABSORPTION CONTROL
- ★ UNIFORM PROCESSING AND CURING
- ★ HEAT AND MOISTURE EVAPORATION
- ★ FAST PRODUCTION, OVEN DRYING
- ★ CHEM. RESEARCH • BACTERIA CULTURES
- ★ GRADUATED COOLING FOR UNIFORMITY
- ★ PRECISION CHEMICAL DRYING
- ★ FABRIC, PLASTIC AND WOOD CURING

**ANY SIZE UP TO LARGE INSULATED ROOMS**

If you have other war production problems where automatic temperature and humidity control can step-up delivery, prevent waste and insure uniform quality . . . then call on Anetsberger Bros. Write telling us the size of box or room, temperature and humidity range desired.

**PORTABLE AUTOMATIC A.S.M.E. STEAM BOILER**

A fully automatic A.S.M.E. approved boiler from 2 H.P. up. Gas or oil fired. Small, compact and powerful. Get Bulletin No. 117.

**LET US BID ON YOUR SUB-CONTRACT WAR ORDERS**

Anets equipment is used by Army, Navy, Marine and Air Corps. We've been in war production for over a year. Send in your blueprints. Prompt bids submitted. Write.

**Anetsberger Bros.** 3320 Elston Avenue  
Chicago, Illinois

When inquiring specify CEP5623 — see information request blank, pgs. 2-3

## INSTRUMENTS

### Timers for Single and Combination Use in Industrial Operation Control

A series of timers for controlling industrial operations on a timed stop-cycle basis is described in great detail in eight-page-catalog-size bulletin, standard punched for convenience in placing in binder. A few of many control applications listed include molding presses, automatic quenching, automatic weighing, alarms and signals, automatic mixing, soaking time, cutting machines and baking ovens. Two of this series are Vernier Set, two are Cycle Progress timers. Complete specifications, detailed sectional photographs, wiring diagrams, tables indicating the various possible arrangements of the timers and drawings showing the features and dimensions of cases available complete the bulletin. Available upon request.

AUTOMATIC TEMPERATURE CONTROL CO., INC., Dept. CEP, 34 E. Logan St., Philadelphia, Pa.

When inquiring specify CEP5624 — see information request blank, pgs. 2-3

### Indicating and Recording Temperature Controls Now Housed in Cast Iron and Steel Cases

Measuring and control instruments designed for a wide variety of industrial applications are given detailed description in a new catalog, standard size, punched for binder and featuring numerous sectional views of the equipment. The unit construction featured in temperature controls is explained by reference to a number of detailed sectional illustrations showing the indicator as a complete assembly which requires only a single electrical connection. Any indicator assembly of any type measuring system can be installed in the unit in a few minutes. Indicating and recording controllers, devices to guard against flame failure and numerous control auxiliaries are also presented. Cases are now of steel or cast iron instead of aluminum. Bulletin Z6000 available on request.

WHEELCO INSTRUMENTS CO., Dept. CEP, Harrison & Peoria Sts., Chicago, Ill.

When inquiring specify CEP5625 — see information request blank, pgs. 2-3

### Zone and Compensated Controls for Heating Comfort and Greater Fuel Economy

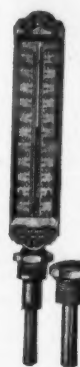
Two-page-two-color bulletin contains detailed information concerning compensated control for zone temperature control work. Designed so that heat anticipation is provided only when needed and in the amount required by a particular weather condition. Overheating is controlled by maintaining low or higher radiator temperatures as required. This is accomplished by use of a thermostatic switch in conjunction with a room type compensated control thermostat. Switch mounted on one of radiators, selected as control station, causes a rise in radiator temperature. Heater creates within the room thermostat a small rise in temperature which shortens the heat on period. Heat is available in force when needed. Specification tables and brief references to application of controls to one and two pipe systems, vacuum, high or low pressure systems which may be fired by an oil burner, stoker, or central steam station. Three types of switches are described, radiator type, immersion type for hot water system and duct style for use in warm air duct. Bulletin available on request.

BARBER-COLMAN CO., Dept. CEP, Rockford, Ill.

When inquiring specify CEP5626 — see information request blank, pgs. 2-3

## VICTORY

ACROSS THE HORIZON



For ultimate Victory, the THERMOMETER will play an important part.

No purchase today can be overlooked for each thermometer that gives you smooth running production is a big asset in any plant. Delays for breakage are costly.

**PALMER Thermometers:**

- ★ — Easy-reading RED column eliminates errors;
- ★ — Sturdily built for long life;
- ★ — Guaranteed for permanent accuracy.

You cannot afford to take a chance today. Select your next purchase carefully and remember PALMER Thermometers are helping to bring Victory closer.

(Catalog No. 300-D sent promptly)

red reading mark

## THE PALMER CO.

MFPS.: INDUSTRIAL LABORATORY, RECORDING & DIAL THERMOMETERS

2519 NORWOOD AVE., CINCINNATI, NORWOOD, O.

CANADIAN BRANCH: KING AND GEORGE STS., TORONTO

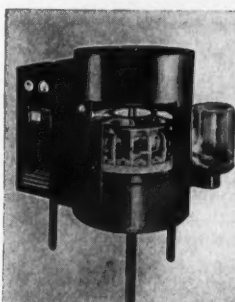
When inquiring specify CEP5627 — see information request blank, pgs. 2-3

## TODAY'S CONDITIONS

demand

**SPEED**

### IN ACCELERATED FADING TESTS



● Maintenance of maximum production while still meeting rigid purchase specifications calls for speed in testing products for color fastness. Testing of new products and control testing of established products must be performed accurately as well as quickly. The "National" Type XV Accelerated Fading Unit meets this demand for speed by giving true, reproducible results in less time than is required by other methods.

USE EQUIPMENT PROVIDING A TRUE STANDARD FOR COMPARISON OF COLOR FASTNESS AND GIVING QUICK RESULTS.

Write for bulletin describing this efficient unit.

THE NATIONAL  
TRADE-MARK  
TYPE XV Accelerated  
FADING UNIT

NATIONAL CARBON COMPANY, INC.

Unit of Union Carbide and Carbon Corp.

Carbon Sales Division, Cleveland, Ohio

30 East 43rd Street, New York 17, N. Y.

BRANCH SALES OFFICES

New York • Pittsburgh • Chicago • St. Louis • San Francisco

When inquiring specify CEP5628 — see information request blank, pgs. 2-3



### Program Capacitrol

Program Control is effected by means of a synchronous motor driven disc, which is so contoured as to move an arm, mechanically coupled to the temperature setting lever of the Wheelco "Electronic Principle" Controller (Capacitor, Potentiometer or Resistance Thermometer). Rotation of the disc moves arm, thereby changing the temperature setting to produce desired temperature. The disc is actuated to all desired temperature processes for measuring, indicating and controlling temperature from -50 to +3600 F., or equivalent °C.

*Wheelco Instruments Co.*

*Originator of "Electronic Principle" Temperature Controls*

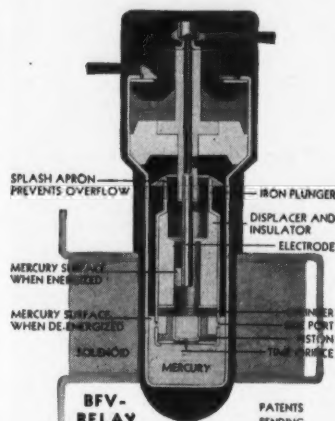
*Now...*  
**MAKE pH DETERMINATIONS**  
*anytime.. anywhere!*

**W. A. TAYLOR AND CO.**  
7302 YORK RD. BALTIMORE, MD

## INSTRUMENTS

### Time Delay Relays Under Inert Gas Pressure Quench

*For applications where time intervals are required  
at the beginning or at the end of a cycle*



hazardous to electrical contacts.

DURAKOOL, INC., Dept. CEP, 1010 Main St., Elkhart, Ind.

### Kjeldahl Equipment for Digestions, Distillations

Eight-page-two-color-bulletin presents a great variety of highly practical information on equipment employed in routine control and research laboratories for the determination of nitrogen and protein content. Dozens of photos show possible modifications and combinations of equipment for digestions and distillations, adapted to the needs of the small and large laboratory. Bulletin No. 515 available on request.

When inquiring specify CEP5632 --- see information request blank, pgs. 2-3

**Uses**—This series of hermetically sealed time delay mercury relays can be used in modern communication systems. In machines, motors and electrical circuits where time intervals are required at the beginning or at the end of a cycle. Also for recycling operations or flasher actions. High pressure gas cools and quenches the arcing. Recommended in applications where dust, dirt, moisture and explosive fumes are

# DIXIE

## Non-Clog

# HAMMERMILLS

**DIXIE MACHINERY MFG. CO.**

4202 Goodfellow Blvd., St. Louis, Mo.

## GET THE FACTS!

to crush .....

to crush .....

Name \_\_\_\_\_

Name .....

Company \_\_\_\_\_

\_\_\_\_\_

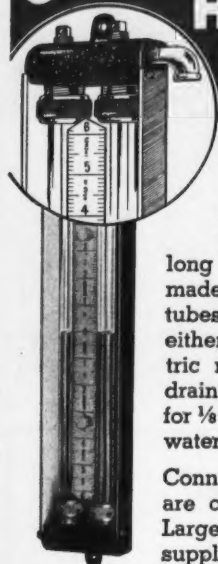
Address .....

City \_\_\_\_\_ State \_\_\_\_\_

When inquiring specify CEP5533 — see information request blank, pgs. 2-3



## Connelly EXTRA HEAVY DUTY Manometers



FOR PERMANENT  
MOUNTING

The new Connelly Manometer, Model 3400 — built for extra heavy duty — can be depended upon for accuracy and long life under all conditions. It is made with large bore, clear glass tubes for easier reading, graduated either in inches and tenths or in metric measure. Gland packed, with drain plugs at the bottom and fitted for  $\frac{1}{8}$ " pipe connections. For use with water or special anti-freeze solution. Connelly Model 3400 Manometers are carried in stock in five sizes. Larger or intermediate sizes can be supplied if desired.

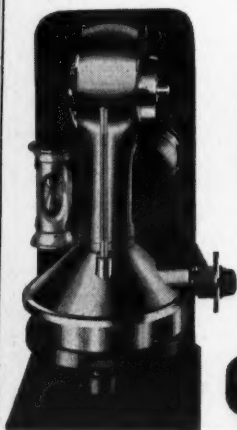
Write today for bulletin and prices.

# CONNELLY

IRON SPONGE &  
GOVERNOR CO.  
CHICAGO, ILL. — ELIZABETH, N. J.

When inquiring specify CEP5634 — see information request blank, pgs. 2-3

Rapid  
Accurate



## MOISTURE CONTROL

with the

## DIETERT MOISTURE TELLER

The Dietert Moisture Teller determines moisture content accurately and rapidly by forcing electrically heated air through the test sample. The drying temperature may be controlled closely with thermo regulator. Cost of operation is very low. Used by many of the largest chemical and allied industry plants.

For plant and laboratory use in the chemical, ceramic, food, foundry, paper, pulp, rubber, salt, sugar, textile and tobacco industries.

Send TODAY for full information  
**HARRY W. DIETERT CO.**

9330 G Roselawn Ave.

Detroit, Michigan

When inquiring specify CEP5635 — see information request blank, pgs. 2-3

## NEW LITERATURE

The following literature has been issued recently by manufacturers of the products discussed and is available to chemical process manufacturing executives on request. Address requests to the publishers by using handy request form, pages 2-3, or write to the manufacturers direct.

### New Emulsifying Equipment Features Compact Design, Easier Operation and Emptying

Four-page-two-color-bulletin describes emulsifying equipment that consists of two stainless steel tanks inclosed in white enamel cabinet providing for installation that is unusually compact. Page size diagrammatic photo emphasizes construction and operation features and other illustrations show unit in service. Design features that save time, provide for easy emptying by piping into filling machines, decreased power consumption and stabilized suspensions are explained. Wide applications include chemicals, soap, pharmaceuticals, paper, food products. Table gives specifications of various models ranging from 50 to 250 gallon capacities. Folder available upon request.

A. T. CASE CO., Dept. CEP, 6100 Avalon Blvd., Los Angeles, Cal.

When inquiring specify CEP5636 — see information request blank, pgs. 2-3

### Starter Accelerating Units to Insure Proper Starting According to Conditions

Twelve-page-and cover booklet describes applications of "Neo-time current" accelerating units designed to automatically control the closing of acceleration contactors which short out resistance in the secondary circuit of the a. c. wound-rotor motor. Timing is such that each accelerator closes after the proper interval of time so as to increase motor torque as required to accelerate the load. Detailed photos of the equipment and diagrams augment the concise text. Booklet 1041 available on request.

ELECTRIC CONTROLLER & MFG. CO., Dept. CEP, Cleveland, Ohio.

When inquiring specify CEP5637 — see information request blank, pgs. 2-3

### Hand Machined Spray Nozzles Well Adapted For Numerous Cooling Applications

Two-color-illustrated bulletin, six pages, 8 1/2 x 11 contains an interesting spread of pictures showing a wide variety of applications of new spray nozzles which are non-clogging and throw a flat fan-like spray with such force that it removes dirt and grit from even the most irregular surfaces or cools quickly and evenly. Each nozzle is hand machined. Selection of three sizes offered. Bulletin No. 409 sent on request.

CHAIN BELT CO., Dept. CEP, 1600 Bruce St., Milwaukee, Wis.

When inquiring specify CEP5638 — see information request blank, pgs. 2-3

### Drying Equipment

Thirty-six page and cover illustrated bulletin illustrates and describes a variety of driers employing various drying principles. Construction, design and operation are dealt with in detail. Many applications included in the great number listed and discussed include drying of chalk, charcoal, lime, salt, sand, slurry, soapstone, Fullers earth, corn, cotton seed, starches. Bulletin 16-C available upon request.

HARDINGE CO., Dept. CEP, York, Pa.

When inquiring specify CEP5639 — see information request blank, pgs. 2-3

### Instructions on Industrial Truck Maintenance Given in Ready Reference Summary

An unusually comprehensive six page summary, prepared by industrial truck engineer, clearly describes in detail the various steps and procedure to be followed in performing the numerous maintenance operations that industrial truck equipment should receive to assure long life and uninterrupted, dependable service. Initial pages are devoted to numerous practical suggestions along general lines emphasizing avoidance of overloading, regular lubrication, cleaning, recording of maintenance operations and good floor and aisle conditions. The various practical operations are conveniently listed under headings of day, week and month. Some of the various units and parts dealt with include: wheels and their alignment, care of lift or hoist, electrical equipment, power axle, wheel universal joint, wheel and spindle bearings, brake drums, controller and switches. Careful cleaning, dust removal and careful regular lubrication are also emphasized. The directions given provide a helpful and dependable guide in performing this work and serve as a handy check as to when, where and how these various operations should be performed. Available upon request. This maintenance service release is entitled, "Industrial Truck Care Pays You Dividends."

BAKER-RAULANG CO., Industrial Truck Div., Dept. CEP, Cleveland, Ohio.

When inquiring specify CEP5640 — see information request blank, pgs. 2-3

### Heat Exchanger for Heating and Cooling Tarry or Dirty Fluids

Twelve-page-and-cover bulletin outlines and illustrates the features of heat exchangers designed especially for such services. These leak-proof design units are known as Tubeflo sections. Fluid flows through two parallel tubes arranged in two passes. Four tubes of the section are expanded into closely spaced diamond shaped fins which bind the four tubes together and transfer the heat from the hot tubes to the cold tubes. All pipe connections are at the end of the unit and the return end of the unit floats freely on change in temperature. Sections are standard and interchangeable. Typical operations cited include handling heavy crude oil, clay bearing oil and liquids at extreme pressures and temperatures. Bulletin 1621 available upon request.

GRISCOM-RUSSELL CO., Dept. CEP, 285 Madison Ave., New York, N. Y.

When inquiring specify CEP5641 — see information request blank, pgs. 2-3

### American Made Filter Papers for Laboratory and Industrial Applications

Applications, complete descriptions and specifications of sizes concerning a complete line of domestic filter papers are given in a twelve-page-pocket size bulletin. This describes papers for laboratory use and is numbered 65. Bulletin 66 presents data on industrial filter papers.

CARL SCHLEICHER & SCHUELL CO., Dept. CEP, 116 West 14th St., New York, N. Y.

When inquiring specify CEP5642 — see information request blank, pgs. 2-3



## NEW LITERATURE

### Adjustable Pitch Sheaves and Wide Range Belts Increase Machine Flexibility and Production

Sixteen-page-and-cover bulletin, file size, describes in detail how flexibility and production of machines can frequently be increased by the use of sheaves arranged to permit the adjustment of the grooves providing control of pitch or working diameter and affording quick increase or decrease in speed of the driven shaft. Both types, stationary and motion control are shown in large, clear action photos and diagrams give details of control operating mechanisms. Sizes and general dimensions are given in convenient tables. Among the many applications cited are fan, blower, heating, ventilating, textile spinning, oil line pumps and grinding machines. An automatic ball bearing motor base is also featured. This unit provides and maintains uniform belt tension throughout the speed range adjustment. A page is also devoted to illustrations and data regarding manual and electrical type speed changers. Bulletin B6082-A is available on request.

ALLIS-CHALMERS MFG. CO., Dept. CEP, Milwaukee, Wis.

When inquiring specify CEP5643 — see information request blank, pgs. 2-3

### Precautions and Maintenance Methods That Will Conserve Rubber for Industry

Conservation of rubber products in industry is the subject of a 48-page, 6 x 9 booklet recently issued by rubber manufacturer. Complete and explicit suggestions are given for the care and preservation of rubber goods in industrial use. Book is completely indexed and all mechanical rubber goods are included such as hose of all types, transmission, conveyor and elevator belts, molded and extruded rubber goods, rubber lined equipment, rubber mountings, mats and matting and rubber bonded grinding wheels. This volume, titled "First Aid to Industry" is available on request.

UNITED STATES RUBBER CO., Dept. CEP, Rockefeller Center, N. Y.

When inquiring specify CEP5644 — see information request blank, pgs. 2-3

### Determining Overall Heat Transfer Rates, Thermal Conductivities of Metals

Information on formulae for determining overall heat transfer rates, various factors influencing heat transfer rate through metallic walls and the thermal conductivities of metals and alloys commonly used in the construction of process equipment in a twenty-four page bulletin. Data compiled by company's research division. Illustrations show equipment which depends on the transfer of heat through metallic walls for normal operations. Available upon request.

INTERNATIONAL NICKEL CO., Dept. CEP, 67 Wall St., New York, N. Y.

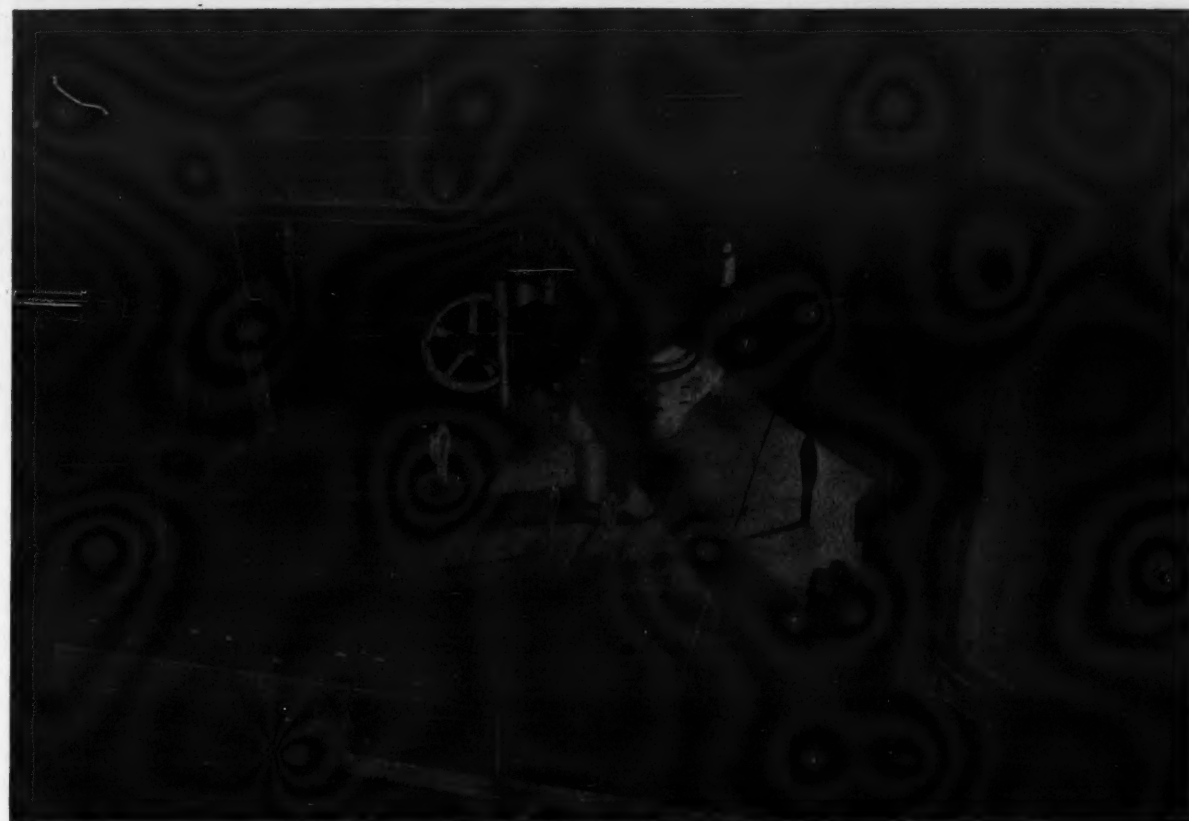
When inquiring specify CEP5645 — see information request blank, pgs. 2-3

### Metal Stamping Dies, Tools & Supplies

Stamping, embossing, block, roller, insert dies, steel hand and hammer stamps and hand and automatic wheel stamps are all described and illustrated in a two color eight-page-file-size catalog. Available upon request.

DICKEY-GRABLER CO., Dept. CEP, 10292 Madison Ave., Cleveland, Ohio.

When inquiring specify CEP5646 — see information request blank, pgs. 2-3



## 36" That Blitzed a Scarcity in '42

... May Widen a Market in '45

### More production in less time

... with A T & M

There's a new horizon in the process industries, as A T & M's centrifugal engineering marches on. For one manufacturer ... formerly losing 25 to 40% of a scarce acid in slow, costly filtration ... the cooperation of A T & M engineers meant 95% recovery and reduction of process time from 7 minutes to 40 seconds, through a specially adapted standard A T & M centrifugal.

### Plant expansion in the same space

... with A T & M

For another manufacturer, limited headroom prevented centrifugals larger than 36". There was no additional floor space available. Yet expansion was imperative!

A T & M engineers, studying plant layout, installed five 36" machines which, through quicker acceleration of motor drive, doubled production without adding to floor space.

### A Better Tomorrow Planned Today

... with A T & M

Just as you can centrifuge anything that can be extracted by a filter ... and many substances too fine for a filter to handle ... generally faster and in less space — so also in many other processing operations, centrifugals engineered by A T & M are efficient substitutes for slower, more costly methods. They are furnished in all machinable metals and coatings — link-suspended ... suspended ... or base bearing. An A T & M engineer is available, as na-

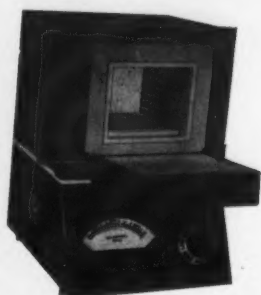
tional needs permit, to help you plan more profitable or productive operations. Write us, addressing American Tool & Machine Co., 1425 Hyde Park Avenue, Boston — or 30D Church Street, New York, N. Y.

Today, A T & M centrifugals ... engineered and adapted for some of the most difficult bottlenecks in U. S. defense production ... are solving tomorrow's problems. Prepare now to take advantage of A T & M's centrifuging ... in all extraction, dehydration, filtration, precipitation, impregnation and coating processes.

# A T & M CENTRIFUGALS SAVE TIME AND SPACE

When inquiring specify CEP5647 ... see information request blank, pgs. 2-3





## Huppert Laboratory Furnaces

Accurate—Sturdy  
Outstanding Values

Model Illustrated

**\$41.25**

COMPLETE

Three heat ranges. High, 900° F. Medium, 400° — 900° F. Low, 0 — 400° F. Large, accurate Pyrometer aids in definite temperature control and in securing exact duplication of results.

Interior dimensions, 4½" x 3½" x 4½". Overall dimensions, 11" x 13" x 11". Operates on 110 volts, A.C. or D.C.

Huppert Furnaces are ruggedly built for heavy duty service, with no exposed contacts. Prices range from \$24.75 up, with standard heat ranges up to 2500° F. (Special voltages, dimensions or temperature ranges to order.)

Write for free catalog

**K. H. HUPPERT**

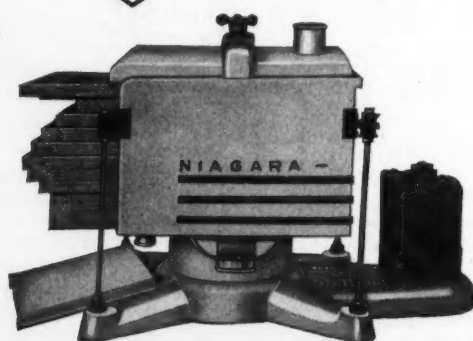
166 W. Walton Place

Chicago, Ill.

When inquiring specify CEP5648 — see information request blank, pgs. 2-3



**First**



From LIMIT TESTING To  
CONTINUOUS FLOW —  
A SIMPLE CHANGE OF SIEVES —

**GYRO-LAB** S I F T E R

HIGH-SPEED AND HIGH EFFICIENCY. INVALUABLE IN  
TEST-ROOM OR LABORATORY OR FOR CONTINUOUS  
PRODUCTION.

**RICHMOND**

Mfg. Co. LOCKPORT, N. Y.

When inquiring specify CEP5649 — see information request blank, pgs. 2-3

## NEW LITERATURE . . . .

### Strainers for Pump Protection Available In Iron, Bronze-fitted and Bronze Types

Strainers, for the protection of all types of pumps, that are easy to clean and have straining areas in excess of those specified by recognized authorities are shown in photos and diagrams together with specification tables in handy two-page bulletin. The four types of strainers available include a completely steam-jacketed strainer for viscous liquids, a low swing strainer with quickly detachable top and a "T" type unit with provision for side outlet so that it may replace a standard elbow in the suction line. These are in addition to the first of the bronze fitted and all bronze construction. All are rated in both GPM and pipe size. Copies of the bulletin No. 400, sent on request.

BLACKMER PUMP CO., Dept. CEP, Grand Rapids, Mich.

When inquiring specify CEP5650 — see information request blank, pgs. 2-3

### Data Book on Low Temperature Welding

Low temperature welding process without melting the base metal known as "Castolin Eutectic Welding," is fully explained in a thirty-six-page and cover file size manual. In describing the principles of "eutectic fusion" the affinity of the base metals and certain Castolin alloys is emphasized, even though the melting point of the applied metal is far below that of the parent metal. These low temperature alloys diffuse into the parent metals in this manner, minimizing the risk of affecting their structure. Autochem fluxes chemically adapted to their respective rods assist in this diffusion. A great number of applications are described in detail and illustrated. Specifications, properties and applications of the various alloys and fluxes are given in tabulated form. The proper rod for use in connection with various cast, iron, steel, aluminum and alloys etc., are all listed. Data Book, "Eutectic Low Temperature Welding" available on request.

EUTECTIC WELDING ALLOYS, INC., Dept. CEP, 400 Worth St., New York City.

When inquiring specify CEP5651 — see information request blank, pgs. 2-3

### Sixteen Inch Precision Lathes

Eight-page-file-size catalog completely illustrates and describes 16 in. tool room lathes and 16 in. quick change gear lathes. Attachments, accessories and tools for use with these lathes are also listed. Construction features are shown and specifications are tabulated. Lathes have 16¼ in. swing, 1 in. collet capacity. Several bed lengths providing between-centers capacities from 33½ ins. to 103½ ins. Catalog No. 16 is available upon request.

SOUTH BEND LATHE WORKS, Dept. 3X, South Bend, Indiana.

When inquiring specify CEP5652 — see information request blank, pgs. 2-3

### Manganese Gears, Rollers and Wheels

Twenty-four-page and cover catalog discusses in comprehensive manner the development and numerous applications of manganese steel. Over one hundred illustrations show rollers, idlers, sprocket wheels and miscellaneous gears made of manganese steel. Bulletin No. 842-WS available upon request.

AMERICAN MANGANESE STEEL DIV., Dept. CEP, 389 E. 14th St., Chicago Heights, Ill.

When inquiring specify CEP5653 — see information request blank, pgs. 2-3

### CO<sub>2</sub> Fire Extinguishing Equipment

Industrial fire extinguishing systems for complete plant coverage which employ CO<sub>2</sub> are fully described in a two color eight-page and cover 8½ x 11 in. booklet. Center spread is devoted to schematic drawing showing plant layout involving a large variety of typical hazards and the manner in which piping arrangement reaches all desired points and provides efficient protection. The provision for tank storage of CO<sub>2</sub> and replenishment of supply by tank car and tank truck delivery is emphasized. The numerous units of equipment, controls and accessories used in connection with the system are also described and illustrated. This literature is available upon request.

CARDOX CORP., Dept. CEP, Bell Bldg., Chicago, Ill.

When inquiring specify CEP5654 — see information request blank, pgs. 2-3

### Direct Fired Gas, Oil, Coal Heating Systems

Oil, gas and coal direct fired heaters are described in detail and construction and performance data in comparison with central steam plant heat distributing systems of conventional design are included in twelve-page-magazine style booklet. Tabulations are presented which cover comparative savings in metals, by weight and monetary cost. Based on approximately the same btu output per hour tables also indicate reduced floor space requirements. Among advantages that are discussed at length are quick availability of heat, fuel economies and efficient utilization of heat, simplified design and low maintenance costs, use of system as air circulator in summer and uniform heat distribution. Booklet No. 506 available upon request.

DRAVO CORP., Dept. CEP, Pittsburgh, Pa.

When inquiring specify CEP5655 — see information request blank, pgs. 2-3

### Wire Cloth & Wire Cloth Products

A complete line of industrial wire cloth is illustrated and described in a two-color-four-page folder, 8½ x 11. Subjects and accompanying illustrations include types of metals used for weaving, basic types of weaves, types of crimp and special weaves from special shaped wires. Examples of weaves are illustrated in actual size. Reel covers, bolting cloth and panels are shown in reduction. Production services such as trimming, die-cutting, welding, soldering, binding and paint spraying. Folder is available upon request.

BUFFALO WIRE WORKS CO., INC., Dept. CEP, 320 Terrace, Buffalo, N. Y.

When inquiring specify CEP5656 — see information request blank, pgs. 2-3

### Maintenance Data on Gas Engine Driven Compressors

Directions for proper maintenance of its gas engine driven compressors is presented by manufacturer in an eight-page-file-size manual. The numerous recommended operations are described briefly and tabulated in accordance with the time interval, day, week or month at which they should be performed. Charts give specific directions for checking trouble and two highly detailed sectional views of the equipment are valuable in checking various references in text. Booklet titled "Maintenance Hints" will be sent on request.

CLARK BROS. CO., Dept. CEP, Olean, N. Y.

When inquiring specify CEP5657 — see information request blank, pgs. 2-3



## NEW LITERATURE

### Dust Recovery System Designed to Use "Double Eddy" to Advantage

Twenty-eight-page-magazine-style-booklet gives a detailed presentation of the features of design and construction of specialized cyclone-type dust collecting equipment. Brief discussion of dust — what it is, measurement of dust and problems of control — is presented in initial pages. Photomicrographs of typical dust and a chart of micron sizes and equivalents in standard screen scales are of particular interest. The manner in which the "double eddy current" is utilized to advantage is discussed at length and charts, diagrams and illustrations of equipment augment the text. Pictures showing application of equipment in chemical, cement, coal, drugs, food and many other product processing operations are included throughout the booklet. Available on request.

BUELL ENGINEERING CO., Dept. CEP, 70 Pine St., New York City.

When inquiring specify CEP5660 — see information request blank, pgs. 2-3

### Full Line of Gasoline Powered Lift Trucks Designed to Eliminate Preloading

A complete line of gasoline powered lift trucks are interestingly described in a most detailed style in a multi-colored booklet, standard catalog size, plastic-spiral binding for convenient handling. Initial pages are devoted to practical discussion of basic principles of lift truck design emphasizing importance of proper weight distribution and explaining the advantages of centering counterweight close to steering axle. Numerous large drawings aid in presenting this data. Turning ease, driver comfort, centralized controls, one-piece arc-welded all steel frame, front wheel drive, hydraulic lifting-stacking mechanism of direct drive type are all described fully and action views, sectional photos, drawing and diagrams clearly illustrate the various features and technical points discussed. Booklet, titled, "The Inside Story of Towmotor," is available upon request.

TOWMOTOR CO., Dept. CEP, 1255 East 152nd St., Cleveland, Ohio.

When inquiring specify CEP5661 — see information request blank, pgs. 2-3

### Near Infra-Red Process for Paint Baking, Drying, Dehydrating and Preheating

Magazine-style-thirty-two page booklet describes in great detail the widespread use of near infra-red process for paint baking, drying, dehydrating and pre-heating. The first pages describe what the process is and how it operates. There are over 100 illustrations with complete descriptions of products on which this process is used and also views of production operations. This is issue No. 942 of publication "Flashes," regularly issued by manufacturer. Available on request.

FOSTORIA PRESSED STEEL CO., Dept. CEP, Fostoria, Ohio.

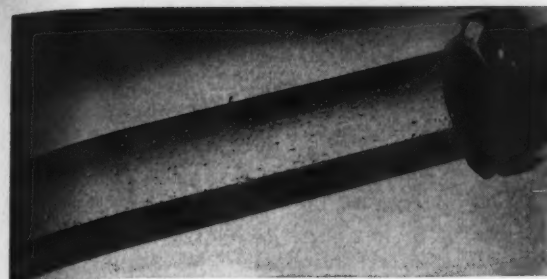
When inquiring specify CEP5662 — see information request blank, pgs. 2-3

### Fluorescent Fixtures and Lighting Standards

Thirty-two-page-and-cover catalog describes line of fluorescent lighting fixtures. Over thirty models are illustrated together with complete specifications. There is a list of recommended minimum standards of illumination and general engineering data. Catalog available upon request.

SYLVANIA ELECTRIC PRODUCTS CO., Dept. CEP, Ipswich, Mass.

When inquiring specify CEP5663 — see information request blank, pgs. 2-3



## IF YOU NEED PIPING IN A HURRY, TRY GLASS

IF YOUR plans call for a new pipe line or one of your present pipe lines needs replacing, here is a piping that you can obtain in a hurry. Available in sizes of 1", 1½", 2", 3" and 4", for pressures up to 100 lbs. per square inch. Pyrex Piping for years has been giving trouble-free, economical service throughout industry.

Long life and low-cost performance records are not surprising when you consider that PYREX brand Glass:

1. Has remarkable resistance to all acids (except HF).
2. Resists thermal shock that would instantly shatter ordinary glass.
3. Reduces pitting and scaling; often prevents these entirely.
4. Permits constant visual inspection of both pipe line and its contents.
5. Withstands powerful destructive combinations of abrasive slurries and strong, hot acids.

OLD AND NEW USERS SAY GLASS PIPING IS EASY TO INSTALL AND MAINTAIN. The entire experience of Corning engineers is available to assist in adapting PYREX Piping to your particular problems. Write to Industrial Division, Corning Glass Works, Corning, N. Y. Branch Offices, New York, 718 Fifth Avenue; Chicago, Merchandise Mart.

"PYREX" is a registered trade-mark and indicates manufacture by Corning Glass Works, Corning, N. Y.



When inquiring specify CEP5658 — see information request blank, pgs. 2-3

## BLACKMER Nation-Wide PUMP-ENGINEERING • SERVICE •

### "Men who know Pumps"

..... are available to help you solve your war-production pumping problems.

Blackmer Men are located in all industrial centers. Consult your telephone book.

#### TAKE GOOD CARE OF YOUR PRESENT PUMPS

Write for these bulletins, prepared as aids for plant maintenance men.

No. 301: FACTS ABOUT ROTARY PUMPS.

No. 302: PUMP ENGINEERING DATA.

No. SER-1: PUMP MAINTENANCE CARD.

**BLACKMER PUMP COMPANY**  
18411 Century Ave., S.W., Grand Rapids, Michigan

When inquiring specify CEP5659 — see information request blank, pgs. 2-3

# Something worth looking into!



## ARMSTRONG Low Cost, Positive HUMIDIFICATION

**ARMSTRONG** Steam Type Humidifiers have brought about a new conception of industrial humidification. They are installed and used as simply as unit heaters—connected into existing steam supply lines. They are low in cost—small models capable of handling 40,000 cu. ft. of space or more list for only \$100 complete with sensitive Friez humidstat and all accessories.

They give results that end your dry air problems permanently. It may pay you rich dividends to investigate the possibilities for application of Armstrong Humidification in your plant. A request for information does not obligate you. **ARMSTRONG MACHINE WORKS, 880 Maple St., Three Rivers, Mich.**

#### WHO USES IT:

A few of the hundreds of leading plants enjoying the benefits of Armstrong Humidification:

U. S. RUBBER CO.  
PETER CARTRIDGE DIV.,  
REMINGTON ARMS  
INTERNATIONAL  
TOBACCO CO.  
BURTON-DIXIE CORP.  
GORTON PEW  
FISHERIES CO.  
ACME BACKING CORP.  
BAUER & BLACK  
STANLEY CHEMICAL CO.  
NORWICH PHARMACAL  
CO  
EAGLE-OTTOWA LEATHER  
SEARS, ROEBUCK & CO.  
BEECHNUT PACKING CO.  
NAVAL AIR STATION  
U. S. PLAYING CARD CO.  
JULIUS KAYSER & CO.,  
LTD.  
VAN RAALTE CO.  
GENERAL CABLE CO.  
and many others!

#### What It Will Do For You:

1. PREVENT loss of weight, strength or quality of hygroscopic materials.
2. IMPROVE workability of materials.
3. CONTROL troublesome or dangerous dust and static conditions.
4. CONTROL drying processes.
5. PROVIDE healthier working conditions.

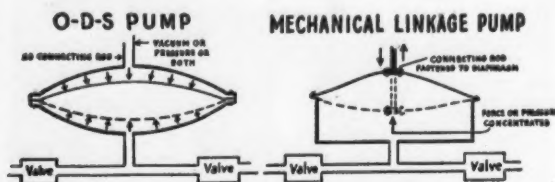


ANSWERS to your questions on humidification will be found in the informative Armstrong Humidifier Bulletin. Advantages, applications, hookups, recommended relative humidities for various types of work—all explained. Ask for free copy.

When inquiring specify CEP5664 — see information request blank, pgs. 2-3



## THE O-D-S PUMPING OF SLURRY IS NON-MECHANICAL — and very low cost pumping, too



By "non-mechanical" we mean without mechanical linkage to diaphragm. Action in the O-D-S Pump is induced by vacuum or pressure, with automatic timers controlling the impulse and cycle. Pressure in the O-D-S diaphragm is uniform over the entire surface. With mechanically-linked pumps, pressure is concentrated. The O-D-S diaphragm also has fewer holes.

The O-D-S Pump is handling many different slurries and pulps, hot and cold. It's doing a bang-up job. Send for Bulletin 307-R which gives full details.

### OLIVER UNITED FILTERS Inc.

New York Chicago San Francisco  
Western Sales: Oakland, Calif.

When inquiring specify CEP5685 — see information request blank, pgs. 2-3

Call on Benjamin for  
recommendations on  
**EXPLOSION PROOF**  
and **DUST-TIGHT**  
Lighting Equipment

Not only from the standpoint of protecting life and property, but also from the standpoint of insuring uninterrupted war production, every precaution must be taken to protect America's War Production against fire, explosion and accidents.

Particularly important are precautionary measures in locations in which explosive vapors or explosive dusts are present. Safe lighting for such locations is one of the vital "musts". For this purpose special types of equipment which meet the requirements of the hazardous locations are needed.

In the solution of these special lighting problems, Benjamin's experience will prove helpful. Benjamin equipment available for this purpose meets all requirements of the National Electrical Code and bears the label of the Underwriters' Laboratories. For further data, address the Benjamin Electric Mfg. Co., Dept. LL, Des Plaines, Ill.

**BENJAMIN**  
LIGHTING EQUIPMENT  
Distributed Exclusively Through Electrical Wholesalers

**BENJAMIN**  
Explosion Proof  
Lighting Units

**BENJAMIN**  
Type II Dust-Tight  
Units

**BENJAMIN**  
Type II G Dust-Tight  
and Moisture-Proof  
Units

**BENJAMIN**  
Type II G "Vapor-  
Seal" Lighting Units

**BENJAMIN**  
Type II G Sealed-Fluo  
48" Fluorescent Dust-  
Tight Units

When inquiring specify CEP5688 — see information request blank, pgs. 2-3

## NEW LITERATURE

### Custom Made Parts From Laminated Bakelite, Cast Phenolics and Transparent Methacrylate

Single-page-two-color illustrated bulletin pictures a wide variety of products made to specifications for customers from laminated Bakelite, transparent methacrylate and cast phenolics. The bulletin makes reference to new fabricating techniques designed to solve difficult production problems without the delays and high cost of molds. Some of the products shown include circuit panel boards, terminal blocks, lenses, close tolerance laminated terminals, press-fit insulating lead-ins and switch handles. Bulletin is available upon request.

CREATIVE PLASTICS CORP., Dept. CEP, 963 Kent Ave., Brooklyn, N. Y.

When inquiring specify CEP5667 — see information request blank, pgs. 2-3

### Sifters in High Speed, Free Swing Production Models and Compact Laboratory Units

High speed sifting equipment is described and illustrated in detail in six-page-two-color bulletin. Among several models featured is the "super-sifter" which eliminates the conventional sifter box, stacking the sieves one upon the other and clamping them mechanically on all sides — reducing the weight without diminishing strength. May be suspended from light ceiling beam. Another is a multi-purpose laboratory sifter capable of both continuous and time limit laboratory tests. Diagrams and tables emphasize features of design which permits the material sifted to travel slowly in spite of high rate of gyration and a relatively small cloth surface. Both available upon request.

RICHMOND MFG. CO., Dept. CEP, Lockport, N. Y.

When inquiring specify CEP5668 — see information request blank, pgs. 2-3

### Cutting Screw Threads in the Lathe

Twenty-one-page-booklet tells "How to Cut Screw Threads in the Lathe," and gives complete information on the various types of lathe tools employed, how to grind them and how they should be mounted and positioned. The uses of the center gauge, compound rest, thread cutting top, thread dial indicator, taps and dies are explained. Types of screw threads commonly used are described with formulae and diagrams of standard screw thread forms. The entire first portion of the booklet is devoted to setting up of lathe for thread cutting including use of quick change gear box to obtain the pitch of thread desired.

SOUTH BEND LATHE WORKS, Dept. 9Y, South Bend, Ind.

When inquiring specify CEP5669 — see information request blank, pgs. 2-3

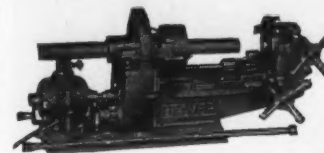
### Practical Pointers on Maintenance and Repair Of Gate and Globe Valves

Six-page-file-size two color bulletin explains in detail the prescribed steps in the repair of leaky gate and globe valves and suggestions on reclamation of discarded valves. A series of clear action photos in proper sequence of the various operations are included with the directions given for both gate and globe types. There is also a diagram and suggestions for disc renewal in composition disc all purpose valves and a sectional photo and data on general valve maintenance hints. This bulletin, (No. 5) and one a series on practical piping pointers, can be obtained on request.

CRANE CO., Dept. CEP, 836 So. Michigan Ave., Chicago, Ill.

When inquiring specify CEP5670 — see information request blank, pgs. 2-3

## The A-B-C of Pipe and Bolt Machines

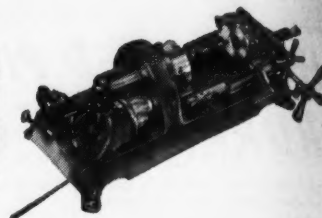


**Beaver Model-A**

A high-speed heavy-duty deluxe Pipe and Bolt Machine. Range 1/4 to 2-inch — up to 12-inch with geared tool and drive shaft. Bolts, 1/4 to 2-inch. Wt. 415 lbs. Ask for Bulletin-A.

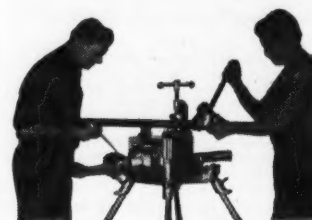
**Beaver Model-B**

A compact utility Pipe and Bolt Machine combining many features of Model-A with the easy portability of Model-C. Range 1/4 to 2-inch — up to 8-inch with drive shaft and geared tools. Bolts up to 1 1/2-inch. Wt. 280 lbs. Ask for Bulletin-B.



**Beaver Model-C**

A sturdy little Power Unit Converts Hand Pipe Tools into Power Tools from 1/4 to 8-inches. Threads 8-inch in 6 minutes. Threads bolts up to 1 1/2-inch. Equipped with automatic chuck wrench ejector — a safety feature. Two men can use it at the same time without interference. Easily portable — weighs about 150 lbs. Write for Bulletin-C.



## BEAVER PIPE TOOLS

1142 REVIEW AVE.

WARREN, OHIO

When inquiring specify CEP5671 — see information request blank, pgs. 2-3

*Simple  
Economical  
Efficient*

**DUSTUBE  
DUST  
COLLECTORS**

**THE Right Answer TO  
YOUR DUST CONTROL PROBLEM**

COMPARE the "Dustube" point-by-point and you will see how logically it meets your dust collecting requirements.

It is **SIMPLE**: The cloth tubes can be installed, inspected or removed in a jiffy; they are light and economical to ship and store; they prevent bridging and clogging; being amply spaced they greatly decrease resistance to air flow with the result that there is not only a saving in power but the air velocity throughout the collector is more uniform; the tubes clean more rapidly and thoroughly because they are shaken like a rug while limp and deflated.

It is **ECONOMICAL**: Operating and maintenance costs are confined to power for operating the fan and shaker and the occasional replacement of an inexpensive cloth tube. There are few working parts to wear.

It is **EFFICIENT**: Performance records show that its efficiency by weight is 98% and more; by dust count the discharged air shows less than ten million particles per cubic foot from two to ten microns in size.

**AMERICAN**  
FOUNDRY EQUIPMENT CO.  
*Blast Cleaning and Dust Control Engineers*  
573 SOUTH BYRKIT STREET, MISHAWAKA, INDIANA

When inquiring specify CEP5672 — see information request blank, pgs. 2-3





Processes involving use of sprays must be given the benefit of the right nozzle. You can't get the results you expect by using any handy nozzle. It takes a nozzle built to do the work.

Spraying Systems Co. products and engineers do just one job — provide the right nozzle for any spraying operation. It makes no difference what you want a spray to do, our complete line includes the right nozzle. Our nozzles do better jobs for you and do them faster. And you get still more for your money when you let our engineers submit their solutions to your spraying problems.

Now is the time to get the information you need. Write today.

### SPRAYING SYSTEMS CO.

4037 W. LAKE ST. — CHICAGO, ILL.

SPECIALISTS IN THE DESIGN AND MANUFACTURE OF SPRAY NOZZLES

When inquiring specify CEP5673 — see information request blank, pgs. 2-3

## GRATING THAT'S 5-WAYS GREAT!

### STRONG

One-piece electroformed steel construction

### SAFE

Non-slip because of the unique twisted bar

### BRIGHT

Maximum open area for light and air

### CLEAN

No sharp corners to clog, self-cleaning

### EASY UPKEEP

Simple to maintain, paint reaches entire surface

Send for free paper-weight-size sample

## BLAW-KNOX STEEL GRATING

BLAW-KNOX DIVISION of Blaw-Knox Co.  
Farmers Bank Bldg., Pittsburgh, Pa

When inquiring specify CEP5674 — see information request blank, pgs. 2-3

## NEW LITERATURE

### Air Raid Safety-Blackout Blanket

Air raid safety blankets and their application to protection of industrial and office buildings are described in a twelve page magazine style brochure. The manner in which they are used for protection against flying glass and for blacking-out windows is clearly presented in detail and installation and operation shown in numerous photos and drawings. Both roller type and permanent applications are dealt with as well as adjustable panel installations. Performance under various tests is cited to indicate their efficiency. Physical properties and specifications are listed, including their resistance to flying glass, debris and fire. Of great general interest are a number of photos of air raid damage emphasizing hazards of flying glass. Available upon request.

CLINTON CARPET CO., Dept. CEP, Merchandise Mart, Chicago, Ill.

When inquiring specify CEP5675 — see information request blank, pgs. 2-3

### Rear Drive, 4-Wheel, Hydraulic Lift Trucks

Jumbo-size-eight-page, two-color folder features large detailed photos of rear-wheel drive, electric lift trucks, equipped with hydraulic ram placed at forward end of truck, providing easy lifting of load through operation of handle lever and controlling heavy loads efficiently when lowered. Other features emphasized are two way control (forward and reverse) on handle lever, four wheel construction for balance and stability and one unit battery, easily removed or charged in truck. Bulletin available upon request.

LIFT TRUCKS, INC., Dept. CEP, 2452 Spring Grove Ave., Cincinnati, Ohio.

When inquiring specify CEP5676 — see information request blank, pgs. 2-3

### Construction and Selection Data on Grinding Wheels, Honing and Superfinishing Stones

Twenty-six page data book gives comprehensive treatment to the construction and selection of grinding wheels, honing and superfinishing stones. Text approaches the subject from an educational angle telling what these products are made of, how they are made, tabulates specifications such as grain and grade, gives recommended wheel speeds, minimum spindle diameters and wheel weights and functional facts of grinding wheel operation. Two tables are particularly valuable in making wheel selections and reading wheel markings. There are also instructive charts on honing and superfinishing stones recommendations. Booklet, "Grinding Wheels — their Construction and Selection" available upon request.

MIDWEST ABRASIVES CO., Dept. CEP, 1960 East Milwaukee Ave., Detroit, Mich.

When inquiring specify CEP5677 — see information request blank, pgs. 2-3

### Liquid Latex Electricians' Gloves

The extreme care and precision required in the manufacture of electrician's rubber gloves is impressively told in a four-page catalog section that illustrates and gives complete specifications of the several types of gloves required by workers for varying operations. The need for all the precaution observed in making these gloves is explained and the construction and features of design of each model are described. Section 9036 is available on request.

B. F. GOODRICH CO., Dept. CEP, Akron, Ohio.

When inquiring specify CEP5678 — see information request blank, pgs. 2-3



THE REX MAN\*

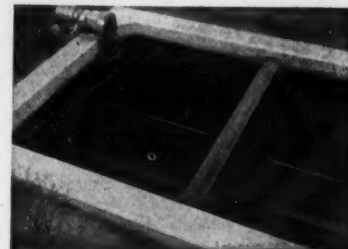


### ① "SURE IT'S DIFFERENT"

I\* told this chemical plant engineer. "Each water treatment problem is a job in itself. But for your flocculation job, I've got an answer that has helped many another like you."

### ② THE REX SLO-MIXER!

This mixer saves your chemicals and cuts operating costs—actually pays for itself. It provides just the right turbulence for maximum floc formation, decreasing turbulence as the floc size increases, until the final settling basin is reached.



### ③ PLANTS LIKE YOURS

in many cities report remarkable results with Rex Slo-Mixers. Rex mixing equipment can be installed in existing basins, or a portion of existing sedimentation basins may be converted readily into slo-mixing basins.

### ④ THIS BOOK TELLS ALL

about Rex Slo-Mixers. Ask for catalog 389. Other catalogs on Rex equipment for water or waste treatment plants, including Conveyor and Tow-Bro Sludge Collectors, Bar Screens, Triturators and Aero-Filters, are yours for the asking.



Write to: 1694 W. Bruce Street, Milwaukee, Wisconsin

**REX SLO-MIXERS**  
CHAIN BELT COMPANY OF MILWAUKEE

When inquiring specify CEP5679 — see information request blank, pgs. 2-3

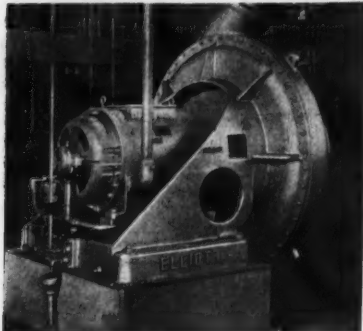


## Blow air, move gases with ELLIOTT CENTRIFUGAL BLOWERS

From small, compact, high-speed single-stage centrifugal blowers to large multi-stage units, there is a range of performance which fits Elliott Blowers into a large field of applications in the chem-

ical and process industries. Capacities: 2000 c.f.m. up; pressures: 1.5 to 100 lb. gage.

Elliott designs and builds the blower; the driver, whether turbine or motor; speed-increasing gears, where required; condenser for the turbine, etc.



CONSULT AN  
ELLIOTT  
ENGINEER  
SALESMAN . . .

He may have a valuable application idea which you can use without obligation.

P-1053



**ELLIOTT COMPANY**

Centrifugal Blower Dept., JEANNETTE, PA.  
DISTRICT OFFICES IN PRINCIPAL CITIES

When inquiring specify CEP5680 — see information request blank, pgs. 2-3



"This is going to make a  
**TOUGH  
JOB  
EASIER!"**

against fatigue and eyestrain. FLEUR-O-LIERS give you such important features as: Certified ballasts and starters, durability and safety, maximum light output, ease of maintenance, correct ventilation. Made by over 45 leading fixture manufacturers in different sizes and designs.

FLEUR-O-LIERS must now be bought under the necessary WPB priority rating. Ask your electrical contractor, wholesaler or electric service company.

Get free FLEUR-O-LIER booklet and list of manufacturers. Write FLEUR-O-LIER Manufacturers, 2154-0 Keith Building, Cleveland, Ohio.

**FLEUR-O-LIERS**

CERTIFIED FIXTURES FOR FLUORESCENT LIGHTING

Participation in the FLEUR-O-LIER MANUFACTURERS' program is open to any manufacturer who complies with FLEUR-O-LIER requirements

When inquiring specify CEP5681 — see information request blank, pgs. 2-3

## NEW LITERATURE

### Concrete Pumps and Pumping Systems

Twenty-four-page-and cover catalog gives complete technical data on a concrete pump, offered in several models, telling how it operates, how concrete pumping systems are set up and listing all the specifications and dimensions for the various machines. Illustrations show pumps at work on actual jobs. Features emphasized are great adaptability to small and very large operations, capacity to pump practically all mixes ordinarily used, easily handled pipe line with simple toggle couplings, savings in time and general costs. Catalog 404 available upon request.

CHAIN BELT CO., Dept. CEP, Milwaukee, Wis.

When inquiring specify CEP5682 — see information request blank, pgs. 2-3

### Vibrating Screens In Floor and Suspended Style

Twelve-page-and cover-magazine-style bulletin contains an interesting and practical presentation of features and applications of two models of vibrating screens offered in various sizes. Style M for floor and suspended mounting and style J, a smaller and lighter screen, for suspended mounting. Construction features include use of machine tight fitting bolts in jig-drilled holes, instead of rivets, and welded permanent connections. A contractor's screen for small quarry operations, foundry clean up work, is also described. Bulletin No. 122 sent on request.

ROBINS CONVEYING BELT CO., Dept. CEP, Passaic, N. J.

When inquiring specify CEP5683 — see information request blank, pgs. 2-3

### Wall Chart Gives Self-locking Nut Data

A handy wall chart presents practical information on self-locking nuts largely by means of detailed illustrations and sectional drawings. The center of the chart is devoted to an explanation of the basic principle by which a self-locking action is obtained in all these stop nuts regardless of type. The chart measures 21 x 27 inches and is reinforced top and bottom by metal strips. Eyelet is provided for hanging at convenient point in shop. One of these charts may be obtained upon request.

ELASTIC STOP NUT CORPORATION, Dept. CEP, 2332 Vauxhall Road, Union, N. J.

When inquiring specify CEP5684 — see information request blank, pgs. 2-3

### 150, 300 and 600 Lb. Cast Steel Butterfly Valves for Heavy Duty Service

Four-page-bulletin describes features of heavy duty butterfly valves which have sufficient face-to-face dimension to permit mounting of ball bearings for high pressure service. Chief advantages, applications and general operating characteristics are discussed. Included are complete tables of dimensions with raised face or ring joint flanges.

R-S PRODUCTS CORP., Dept. CEP, Wayne Junction, Philadelphia, Pa.

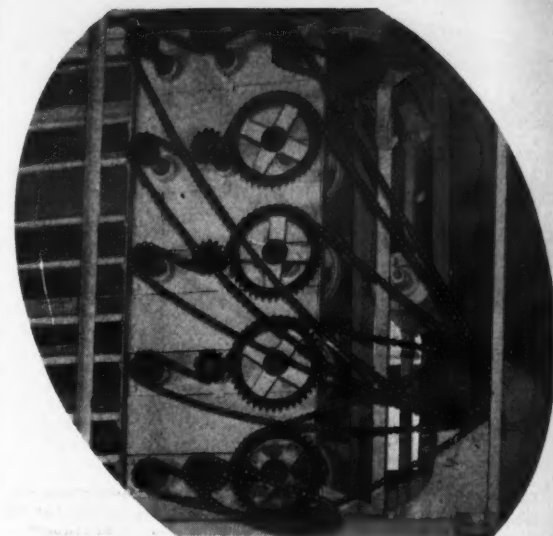
When inquiring specify CEP5685 — see information request blank, pgs. 2-3

### Raceways, Fittings and Universal Receptacles

Revised and enlarged catalog contains detailed technical information and installation instructions on raceways, fittings and fluorescent lighting equipment and describes new polarized and universal type receptacles designed to take plugs with either parallel or tandem blades. Catalog No. 16 sent on request.

WIREMOLD CO., Dept. CEP, Hartford, Conn.

When inquiring specify CEP5686 — see information request blank, pgs. 2-3



## To Coordinate Many Motions

Five sets of three shafts each — all driven from one power source — by means of Diamond Roller Chains. Being identical on both sides they may be run over or under sprockets, center distances can be long or short with speed ratios as maintained because there is no slip or creep. For catalog write DIAMOND CHAIN & MFG. CO., 411 Kentucky Avenue, Indianapolis, Indiana.

## DIAMOND ROLLER CHAINS

When inquiring specify CEP5687 — see information request blank, pgs. 2-3

## NOW! An Improved Oil and Chemical Resistant Gasket with SUPERIOR SEALING QUALITIES

LIGNOFLEX was developed by Fel-Pro engineers to solve the gasket and sealing problem of a leading automotive manufacturer—and was highly successful.

## LIGNOFLEX GASKETS

This new synthetic gasket material combines unusual resilience with high sealing efficiency and remarkable resistance to Acids and other Chemicals, Oil and Gasoline. If you have had gasket failures under these conditions or require a substitute for some gasket material now unobtainable, investigate LIGNOFLEX. Send for Free Samples and complete data.

Write for FREE Sample Book  
Contains samples of 36 Gasket Materials and full data on each.



When inquiring specify CEP5688 — see information request blank, pgs. 2-3



# Save Man-Hours

## WITH A WINCH

The efficient way to lift or pull is to multiply each man's strength many times with an S-A Winch... got by calling a gang from productive work. Many types in various sizes, a right one for every job... Capacities 500 to 3,000 lbs.



Wall Type Hand Winch



Style K-2 Motor Winch

Write today for Winch Bulletin, 340

## STEPHENS-ADAMSON MFG. CO.

Car Pullers Car Loaders SealMaster Ball Bearings - Speed Reducers Conveyors Elevators Screens

11 RIDGEWAY AVE., AURORA, ILL.

When inquiring specify CEP5689 — see information request blank, pgs. 2-3

## Plenty of BRASS TACKS



They tell how to meet urgent production schedules and how to top present standards of operating quality. Write for copies of these catalogs.

## T. SHRIVER & COMPANY

846 HAMILTON ST. HARRISON, N. J.

When inquiring specify CEP5690 — see information request blank, pgs. 2-3

## NEW LITERATURE

### Steel Strapping Replaces Bolts, Nuts, Solves Various Wartime Shipping Difficulties

Application of steel strapping and its features of speed and easy operating strapping tools are interestingly described in recent issue of house organ. Use in shipment of such diversified products as candy, bricks, furnaces, textiles. Ease with which girls can handle strapping operations of bulky packages and cartons is described and illustrated in citing actual case histories. The manner in which strapping has been substituted for bolts and nuts, now hard to obtain, in securing protective caps over flanged outlets of oil and water coolers and at considerable savings is also explained. This issue, No. 8 of the "Process News" will be sent upon request.

ACME STEEL CO., 2840 Archer Ave., Dept. CEP, Chicago, Ill.

When inquiring specify CEP5691 — see information request blank, pgs. 2-3

### Data on Approved Welding Procedures

Welding cast iron by the fusion method using cast iron welding rod is described in detail in a current issue of manufacturer's publication. This article is most timely in view of shortage of bronze rods. The proper procedure is clearly explained step by step and important points are illustrated by numerous action photos. Properties of various kinds of cast iron are explained and a number of exercises helpful to students of welding are outlined. Other subjects in this issue cover building and preheating ovens, expansion and contraction of metals, and a series of some thirty action photos showing in successive steps the approved procedure of operating welding blowpipe and cutting attachment. From the salvage viewpoint a brief article on reclaiming twist drills is interesting.

LINDE AIR PRODUCTS CO., Unit Union Carbide & Carbon Corp., Dept. CEP, 30 East 42nd St., New York, N.Y.

When inquiring specify CEP5692 — see information request blank, pgs. 2-3

### Roof Deck and Low Temperature Insulation With Glass Board

Sixteen page booklet with heavy cover tells "How to Apply Fibreglas AE Board in Low Temperature Applications and As Roof Deck Insulation." Book is profusely illustrated with instructive photographs and drawings. Tables of heat transmission through walls, floors and roofs are given, as well as approximate storage temperatures for perishable goods. Outline specifications for roofs and refrigerated spaces are given in last few pages. Booklet may be had upon request.

OWENS-CORNING FIBERGLAS CO., Dept. CEP, Toledo Ohio.

When inquiring specify CEP5693 — see information request blank, pgs. 2-3

### New Principles Embodied in Heating In Koppers-Becker Coke Ovens

Sixteen-page-and-cover-bulletin describes in complete detail new principles in heating Koppers-Becker Coke Ovens. The material presented in the bulletin is a reprint of a paper delivered at a meeting of Eastern States Blast Furnace & Coke Oven Assn. early this year. It discusses in a comprehensive manner coke oven operating principles, developments, describes the new Koppers-Becker oven and its advantages. Available upon request.

KOPPERS CO., Engineering-Construction Div., Dept. CEP, Pittsburgh, Pa.

When inquiring specify CEP5694 — see information request blank, pgs. 2-3



## KIRK & BLUM

### Industrial OVENS

These ovens pictured above were designed and installed in a finishing department to meet the specific requirements of the manufacturer's processes.

Kirk & Blum Ovens meet the demands for increased speed of production, improved finishes, reduction in fuel and labor costs, and assured safety.

Our Staff of Engineers, with a background of more than a third of a century of specialized experience, can design industrial ovens to meet your particular requirements.

Send for Booklet "Industrial Ovens"

## THE KIRK & BLUM MFG. COMPANY

2833 Spring Grove Avenue, CINCINNATI, O.

When inquiring specify CEP5695 — see information request blank, pgs. 2-3



Takes the Load OFF YOUR MIND

PUSH-E-Z has a reputation throughout industry for taking overloads without a squawk or a squeak. During the Depression many Push-E-Z's had to do the work of two or three ordinary floor trucks. Under pressure today they can do the same and MULTIPLY your equipment.

Welded channel steel chassis, choice of platforms, several types of floor protective wheels, frictionless Service Castor running gear, rated capacities to 6,000 lbs. — these are some of the specifications. Get complete data.

## SERVICE CASTOR & TRUCK CO.

790 N. Brownwood Ave., Albion, Michigan  
Eastern Factory: 430-32 Somerville Ave., Somerville (Boston), Mass.  
Toronto, Canada: United Steel Corporation, Ltd., SC&T Co. Div.

# SERVICE

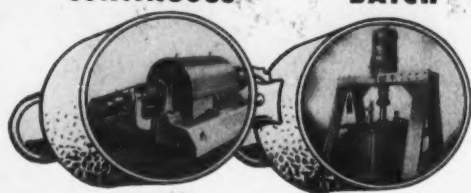
Mobilizers of Industry

When inquiring specify CEP5696 — see information request blank, pgs. 2-3



CONTINUOUS

BATCH



Any Way You Look At It  
THERE'S A BIRD TO FIT THE JOB

Wartime production calls for doing the filtering or separating job the one best way. This is no time to try to adapt the process to the limitations of the equipment.

**That's why BIRD is your best bet** whenever the job calls for separation of solids from liquids.

Why not find out what we'd recommend in YOUR case and compare estimated performance and economy with what you're now getting or expect to get from any other equipment.

**BIRD MACHINE COMPANY**  
SOUTH WALPOLE • MASSACHUSETTS

When inquiring specify CEP5607 — see information request blank, pgs. 2-3

**PNEUMIX**  
air motored agitators

A battery of Pneumix agitators is shown at work in a color room. If you have a mixing problem, especially on hazardous materials, write us for recommendations. Pneumix will give you spark-free, splash-proof, dependable performance.

Send for our bulletin.  
**ECLIPSE AIR BRUSH COMPANY INC.**  
393 Park Ave., Newark, N. J.

When inquiring specify CEP5695 — see information request blank, pgs. 2-3

## NEW LITERATURE

### Revised Handbook Gives Data on Stainless, Tool and Other Special Alloy Steels

Handbook on special steels, revised edition, 127 pages, spiral bound contains complete data on proper selection, treatment and use of alloy steels with finder charts and numerous tables to facilitate quick reference. Suggestions for selection of tool steels are given and recommendations for particular applications. Drill rod lists show sizes, weights and prices. Shoe die steel, silchrome valve steels and special shapes are also discussed. There is also detailed information on nitralloy, stainless and carbon steels. Section on Pluramelt technique describes this method of furnace melting in which a steel embodying more than one combination is produced. Pluramelt does not depend upon subsequent rolling or any other operation for thorough and inseparable union of the component analyses. Handbook, "Special Steels, Their Properties and Uses," available upon request.

ALLEGHENY LUDLUM STEEL CORP., Dept. CEP, Pittsburgh, Pa.

When inquiring specify CEP5690 — see information request blank, pgs. 2-3

### Grills and Registers Designed for Lower Temperature and High Velocity Discharge

Grills, registers and air distribution accessories are all given extensive detailed treatment in attractive two-color-catalog of twenty-four pages. Interesting discussion of air distribution principles, methods and customary practices emphasizes the manner in which these grills permit introduction of air at lower temperature and at higher velocities than is general in many cases. Decreased noise and long throws when necessary are also features given prominence. General information, together with photos and diagrams are given for all the grills, registers and diffusers in the line. Engineering data is contained in a supplement to the catalog. Catalog F-1415-4 available upon request.

BARBER-COLMAN CO., Dept. CEP, Rockford, Ill.

When inquiring specify CEP5700 — see information request blank, pgs. 2-3

### Coal Breakers and Crushers

Coal breakers for handling largest lumps produced and reducing them to egg or nut sizes and crushers for reducing to screenings or stoker sizes are described and illustrated in a twenty-page-and-cover two-color illustrated catalog. Line drawings and diagrams emphasize construction features and convenient tables list specifications. Recommendations for proper application of each type of equipment are given in detail. Available upon request.

McNALLY PITTSBURGH CO., Dept. CEP, 307 No. Michigan Ave., Chicago, Ill.

When inquiring specify CEP5701 — see information request blank, pgs. 2-3

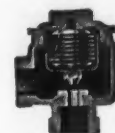
### Health & Safety Manual For Women In Industry

Health and safety manual, just published, is devoted to the problems of women in industry and written and styled with the woman's point of view in mind. Interesting line drawings and photographs illustrate typical women's activities in the organization's plants. One section deals with proper attire, emphasizing safety clothing designed for health and protection. Other sections discuss exercises for health building and occupational hazards of both plant and office workers. Available upon request.

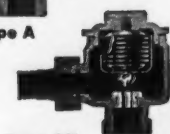
ALLIS-CHALMERS MFG. CO., Dept. CEP, Milwaukee, Wis.

When inquiring specify CEP5702 — see information request blank, pgs. 2-3

**NICHOLSON TRAPS** Made a Great Name for Themselves in World War I and They are Helping "Great Names" in American Industry Win the Production Battle of World War II



Type A

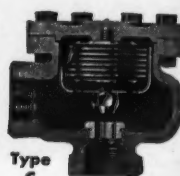


Type AU

Write for  
Bulletin  
No. 242



Type B



Type C

**W. H. NICHOLSON & CO.**  
181 OREGON ST., WILKES-BARRE, PA.

INDUSTRIAL THERMOSTATIC TRAPS

Piston and Weight-Operated, Compressed Air and Gasoline Traps; Steel and Stainless Steel Floats; Flexible and Compression Shaft Couplings; 2-3-4-4-Way Valves; Expanding Mandrels; Arbor Presses; Steam Eliminators and Separators.

When inquiring specify CEP5703 — see information request blank, pgs. 2-3

**1st in design**  
TOPS IN EFFICIENCY

QUINCY was first to design and build an air compressor that combined modern appearance with improved mechanical features. Construction is simpler. Radiation area is increased 12%. Lubrication is more thorough—more positive. The policy of building air compressors exclusively has helped to make the name "Quincy" a symbol for dependability and efficiency. If you have compressed air problems, let us help you solve them! QUINCY COMPRESSOR CO., Dept. M-4, Quincy, Illinois.

**Quincy**  
COMPRESSORS

When inquiring specify CEP5704 — see information request blank, pgs. 2-3



## Fill Urgent Vacancies



**—with men  
already  
on your  
Payroll!**

Have you studied your load-handling operations to see whether you couldn't move even bigger tonnages quicker with Elwell-Parker Trucks—

Thus "upgrading" many men from slow, menial methods of hand transportation, into other important jobs they could fill in your shop?

1—You double up old-fashioned hand truck loads on skids or pallets. 2—You transport these multiplied loads as single units by Elwell-Parkers. 3—You transfer men from manual load-pushing into other jobs they can do better. 4—You transport your bigger loads faster, but with complete safety. 5—You keep your other plant equipment at full capacity, without bottlenecks or congesting the aisles.

Interchangeable parts keep your stocks at the minimum, but serve your fleets adequately. Call Elwell-Parker Engineers to survey your Process Plant.

The Elwell-Parker Electric Company, 4239 St. Clair Avenue, Cleveland, Ohio



When inquiring specify CEP5705 — see information request blank, pgs. 2-3

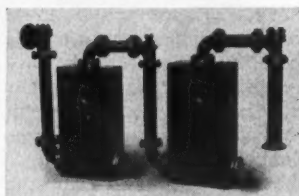
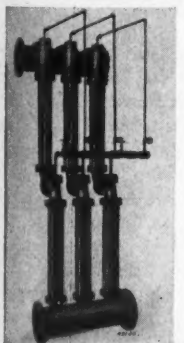


## STEAM-JET EJECTORS

A steam-jet ejector is one of the simplest methods for removing air, gases and vapors from condensers and vacuum chambers. There are no moving parts.

Ingersoll-Rand furnishes ejectors to handle most any gas or vapor and to produce most any vacuum. Ask the I-R engineer for details.

1-stage ejector mounted on direct-contact aftercondenser



(Above) Three-stage ejector with barometric booster and intercondensers

(Left) 2-stage, 3 element non-condensing ejector with suction and discharge headers

**Ingersoll-Rand**  
4-156 11 Broadway, New York, N. Y.

When inquiring specify CEP5706 — see information request blank, pgs. 2-3

## NEW LITERATURE

### Suggestions on Selecting, Breaking in and Using New Line of Welder's Clothing

A new and varied assortment of welder's safety clothing is fully described in a new illustrated catalog. To make it of the greatest possible practical value the compilers have included an authoritative treatise on chrome tanned leather in its relation to the numerous requirements for proper protection on different jobs. Also of interest is a chapter on the best methods of breaking in safety clothing to secure the greatest amount of wear. Construction features are described in detail. A few of these are: garments cut from Kip splits — whole hide and the heaviest that can be satisfactorily used, fire resisting duck used for backing, comparatively few seams and dependable fasteners. This catalog is available upon request.

AMERICAN OPTICAL CO., Dept. CEP, Southbridge, Mass.

When inquiring specify CEP5707 — see information request blank, pgs. 2-3

### 101 Ways to Get Better and Longer Service from Refractory, Friction and Other Materials

An operating practice manual, 12-pages-and-cover gives practical suggestions on getting utmost service from such maintenance materials as packings, insulations, roofings, friction materials and refractory products. Concise text and convenient arrangement make for ready reference for the maintenance engineer. Booklet PP-9A available upon request.

JOHN S. MANVILLE, Dept. CEP, 22 East 40th St., New York, N. Y.

When inquiring specify CEP5708 — see information request blank, pgs. 2-3

### Manganese Steel Conveyor Chains

Sixteen-page-and-cover bulletin describes a wide variety of elevating and conveying chain made of manganese steel. There are numerous illustrations of chain designed especially for such applications as in steel, saw and paper mills and dredging. Elevator buckets and sprocket wheels are also dealt with. Bulletin No. 742-CN available upon request.

AMERICAN MANGANESE STEEL CO., Dept. CEP, 439 East 14th St., Chicago Heights, Ill.

When inquiring specify CEP5709 — see information request blank, pgs. 2-3

### Gas Masks and Safety Equipment

A variety of safety equipment for industrial plants is illustrated and completely described in an eight-page, two-color bulletin. Included in the large selection are helmets, safety belts, gas detectors, safety lights, inhalators, protective clothing and blankets and first aid kits. Text provides valuable information regarding requirements of safety equipment. Bulletin G-5 available on request.

MINE SAFETY APPLIANCE CO., Dept. CEP, Braddock & Meade Sts., Pittsburgh, Pa.

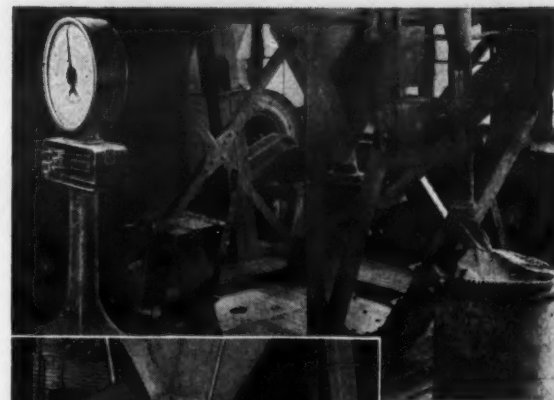
When inquiring specify CEP5710 — see information request blank, pgs. 2-3

### Performance Facts on Power Plant Equipment

House publication of manufacturer of power plant equipment features articles describing installation and performance of condensing turbine generators units, closed feedwater heaters, steam jet ejectors and deaerating heaters. Vol. 20, No. 3 — "Powerfax," sent on request.

ELLIOTT CO., Dept. CEP, Jeannette, Pa.

When inquiring specify CEP5711 — see information request blank, pgs. 2-3



Above—Fairbanks Hopper Scale at R.C.A.-Victor's phonograph record plant in Camden, N. J. Powdered composition from which records are manufactured is conveyed from mixer (at left) to hopper of the Fairbanks Scale.

## R.C.A.-VICTOR DEPENDS ON FAIRBANKS SCALE IN RECORD MANUFACTURING

Before mixed materials from which records are to be pressed are deposited into storage bins at the phonograph record plant of R.C.A.-Victor in Camden, N. J., they must be carefully weighed. To handle this task, a Fairbanks Hopper Scale was installed as a means of simplifying production and keeping accurate accounting records.

The powdered composition from which new records are pressed is conveyed from a mixing machine on a lower floor to the hopper of the Fairbanks Scale. After the mixed materials are weighed, they are forwarded by elevator conveyors and deposited into one of two storage bins until such time as the composition is needed for processing.

Industry today depends upon Fairbanks Scales to weigh special commodities and to carry out innumerable other specialized weighing operations similar or more complex than the system installed at the R.C.A.-Victor record plant. Other Fairbanks Scales are helping to speed production in industry by counting small parts and products, printing weight records and receipts, weighing and disbursing preset amounts automatically, eliminating possibilities of human errors, and performing countless other often amazing short cuts. For Fairbanks Scales are fast and accurate — no stoppage, no breakdowns, no let-downs . . . now or later!

If you are in need of modern weighing equipment, use your priority to get the kind of scales that will serve you best today, during the war, and in the years to come. Fairbanks scale engineers are ready to serve you! Fairbanks, Morse & Co., 600 S. Michigan Ave., Chicago.

When inquiring specify CEP5712 — see information request blank, pgs. 2-3





**Here's Your  
FASTER  
GUIDE to  
OUTPUT  
in GRINDING  
PULVERIZING  
MIXING  
COMPOUNDING  
SIFTING**

**ABBÉ ENGINEERING CO.**  
40 Church St. New York, N. Y.

When inquiring specify CEP5713 — see information request blank, pgs. 2-3

## THE COMMANDER A BLITZ WAGON TO DO THE SWEEPING

Here is one piece of equipment, the equal of a whole crew of sweepers—to blitz your cleaning problems. . . . Consistent with modern shop practice, men with brooms are rapidly being replaced with this mechanized method. One MOTO-SWEEPER can do the work that formerly required many men—releasing them to help speed the wheels of production. And relieving still further the burden of non-productive labor. . . . Efficient, rugged and easy to operate, in large or small areas—it turns right or left under its own power by means of a separate clutch on each wheel of the tractor, controlled at the handlebar (patented). . . . Send for catalog and complete information. . . . 3 models (two motorized) . . . prompt deliveries on high priorities.

**THE MOTO-MOWER COMPANY**  
Industrial Sweeper Division  
4586 WOODWARD AVENUE • DETROIT, MICH.



When inquiring specify CEP5714 — see information request blank, pgs. 2-3

## • • • IDEAS • • •

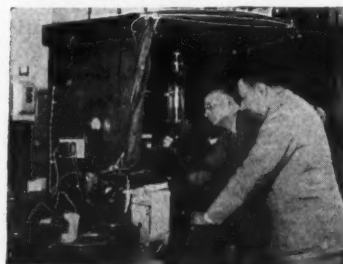
### Strings of Cellophane Bubbles May Be Answer To Many Problems

*Resiliency, light weight, resistance to extremes of  
temperature among numerous features*

Cellophane bubbles formed into a continuous string that closely resembles a strand of minute transparent beads provide a product of such resiliency and buoyancy, as well as other properties, that its wide and practical application as a substitute and superior replacement for many materials is indicated. At present these bubbles are being made in two sizes, about a quarter of an inch long and somewhat smaller. In much of the bubble strand now produced the spacing is about three bubbles to an inch although size and spacing may be arranged according to choice. Test show that "Bubblfil," which is the highly descriptive name of the product, is as buoyant as imported kapok, which comes from the seed pod of a Javanese tree and its use in life preservers, life rafts and boats is considered. As the material can be rendered flame-resistant it has practical military applications. Its use as a shock absorbing material is also indicated, replacing sponge rubber or so called cellular rubber. Tightly packed "Bubblfil" weighs about 1.5 pounds per cubic foot and will support 20 to 30 times its weight of lead. Less than three pounds of the material will keep a heavy man's shoulders out of water. Bubbles are not broken by squeezing nor do they rupture at low temperature or high altitudes. They withstand extremes of temperature and an impact of 79 foot pounds per square inch. Experimental fabrics utilizing "Bubblfil" because of its insulating property also show interesting possibilities. Chemically "Bubblfil" is the same material as cellophane or rayon, regenerated cellulose made by the viscose process. The sirupy viscose material is extruded through a single spinneret hole, relatively large in size. A small amount of air is ejected into it at regular intervals just as the filament is coagulated by the acid bath in which it is being spun. E. I. du Pont de Nemours & Co., are manufacturing it at their Tennessee plant and for the present commercial sales will await war production demands.

### Robot Device Measures To 1/10,000 In. In Determining Metal Flow Rates

*Photocell, meter with electronic tubes aid in  
measuring minute extensions in test wire*



MEASUREMENT TO 1/10,000th in.  
of extension of test wire

through a microscope. Measurement of the "creep" or flow of materials is made in research to create alloys that

An electrical robot now measures the rate at which metals flow when heated and stressed in the General Electric Research Laboratories, Schenectady, N. Y. It is more sensitive and reliable than any human observer and releases for more important work the man who formerly watched the metal sample

will hold their shape under high stress and greatest possible operating temperatures. Usual tests use a bar of the sample metal, which is heated in a special furnace to the range of operating temperatures, 800-1400 F. Such tests may require months to complete. Last year a new method for making creep tests was announced. It uses a thin wire of the metal and passes an electric current through, to heat it to perhaps 2000 F. Wire is enclosed in a glass cylinder, which protects it from air currents, and even permits the test to be made in an atmosphere of nitrogen, thus preventing rust from the oxygen in the air. A weight is attached to the wire. Through a microscope focused on the lower end, the observer formerly watched and measured the slow stretching, as much as half a percent an hour. To make measurements automatically, the robot was devised. The principle may be demonstrated with a flashlight and two combs. Hold one comb over the lens of the flashlight, and you can shine a spot of light on a nearby wall. Now hold the other comb over the first, close to it with the teeth parallel, and move the second comb very slowly. When the teeth of one cover the openings of the other the light is cut off. But when the second comb moves the width of a tooth the clear spaces are lined up and light passes through. If the flashlight and first comb were firmly fixed, and the width of the teeth and openings were known, it would be possible to measure the movement of the second comb merely by counting the alternations of light and dark. That is what the new method does. A light shines through a glass grid, ruled with horizontal black lines each 1/250 inch wide and the same distance apart. Attached to the bottom of the test wire is another such grid, nearly in contact with the first. A lens forms an enlarged image of the surface of the photocell which converts light into electricity. A very sensitive meter in which electronic tubes are used, makes in ink on a moving strip of paper a record of the changes in current from the photocell, hence in the changes in brightness or the movement of the second grid. In this way it is possible to measure an extension of the wire as small as 1/10,000 of an inch.

### Formulations of Ethyl Cellulose Versatile Rubber Substitute

*Can be used in tape, tubing, coated fabrics and also  
is demonstrated as a new development in plastics*

New formulations of ethyl cellulose plastic designed to replace rubber have been found suitable for many uses states a recent announcement of the Hercules Powder Co., Wilmington, Del. Soft formulations of this rubber can be used to replace rubber in friction tape, water tubing to replace brass, raincoats, hospital sheeting, garden and other rubber hose, fruit jar rings, gloves and washers. Ethyl cellulose, it is explained, is not only an approach to the rubber problem but a comparatively new development in plastics, most of which heretofore have been hard plastics. Ethyl cellulose when compounded with oil and chemical plasticizers in the range of 40 to 60% ethyl cellulose and 60 to 40% plasticizer produces compositions having many of the qualities which have made rubber applicable to numerous products. All materials required for the manufacture of ethyl cellulose are domestic or obtainable in sufficient quantities for large scale production. Properties which restrict the application of ethyl cellulose are its limited elasticity and lesser resistance to tear-



ing than rubber. Laboratory tests have developed some of its properties which are now available to molders and fabricators. Two types of ethyl cellulose, N and G are used in the formulations, the N having 48% ethoxyl content, the G, 45%. The lower ethoxyl content has been found better for injection molded plastics, the higher for extrusion molded plastics.

## A-C Welding Equipment Saves Power, and Electrodes

*Releases scarce d-c welding equipment for use where it may be essential*

Use of alternating current arc welding should be extended as far as possible states a recent bulletin issued by General Electric Co., Schenectady, N. Y. It is pointed out that critical materials such as copper and steel are saved through the use of a-c welders, since approximately twice as much welding capacity can be built into transformers as into rotating machines, with a given amount of these materials. Using a-c welding wherever possible releases d-c equipment for work where it is absolutely essential. A-C welding equipment steps up production and the welds are of higher quality by virtual elimination of the magnetic blowing of the arc, making it possible to use larger electrodes and higher current. A great savings in electrodes result, a typical case is one shop where savings amounted to 20%. Power savings as high as 50% have also been effected.

## New Fluorescent Lamp Phosphor

*Uses no cadmium or lead and produces more light than previous mixture*

For use in coating fluorescent lamps, a new phosphor which produces more light and uses no cadmium or lead has been developed by research engineers of Westinghouse Lamp Div., Bloomfield, N. J. In the fluorescent lamp the phosphors function is to transform invisible ultraviolet rays into visible light radiations. The new phosphor already being used in fluorescent lamp production has been found to maintain a high light output in the lamps, yet permits the elimination of cadmium and lead, two essential war materials. The new material gives more light than the previous mixture that contained critical materials.

## Redwood Replaces Critical Materials in Tanks and Vats for Wide Range of Processing Operations

Four-page-technical bulletin presents a revealing and comprehensive summary of wide usage of Redwood tanks and vats in American industry and provides a brief, generalized answer to many questions as to the adaptability of this wood to tank requirements of various fields. Text highlights the characteristics of Redwood which make it especially fit for tanks handling water, organic acids, in leather tanning, metallurgy, soap manufacture and in food and beverage processing. Some of the many applications are illustrated and there are several specification tables. This bulletin, No. 16, as well as more detailed data sheet, is sent upon request.

CALIFORNIA REDWOOD ASSN., Dept. CEP, 405 Montgomery St., San Francisco, Cal.

When inquiring specify CEP5716 — see information request blank, pgs. 2-3

# WANT TO STEP UP NIGHT PRODUCTION IN YOUR FACTORY?

## THESE TRUE STORIES TELL HOW OTHER WAR PLANTS HAVE INCREASED PRODUCTION BY MAKING A FEW SIMPLE CHANGES IN THEIR LIGHTING!



Production lagged in a small war factory because inspection work was lagging. Yet new lighting fixtures only recently had been installed. A lighting engineer discovered that glare was the trouble . . . glare from per-

fectly good lighting fixtures that were so placed that the light hit the inspectors right in their eyes. A simple change in the position of the fixtures opened up that bottleneck and helped increase production immediately.



Something was wrong with the lighting in a big war plant recently converted to the manufacture of army tanks. A lighting man was called in. He made a careful study . . . taking light meter readings here and there . . . and examining the lighting fixtures. Then he cleaned all the bulbs and reflectors in one

small section of the plant. Another light meter reading showed the light had jumped from 6 to 25 footcandles. Lighting had been increased four times—just by getting rid of dirt and grease. Today with a regular cleaning program throughout the plant, production has increased.



A small plant recently got an order to manufacture a vital part for machine guns, requiring about 20 milling machine operations. With only a limited number of machines frequent machine settings were required. The plant engineer knew the job could be

done faster if his workmen had better light. He installed supplementary lighting over the machines and put larger bulbs in the sockets. Results? The job was done faster and more efficiently, and so the production capacity of the plant was increased.

**IF YOU ARE RUNNING** a wartime shop or factory, why not find out whether good lighting can improve production, cut waste and accidents for you? Even a slight change to eliminate glare or shadows can often make a noticeable difference in night production. Your local electric service company or your G-E lamp supplier can give you helpful advice. Or call your nearest G-E lamp office and they will place a trained Wartime Lighting Counsellor at your service. General Electric Company, Nela Park, Cleveland, Ohio.

**G-E MAZDA LAMPS**  
**GENERAL ELECTRIC**

### TEAR OUT THIS COUPON TODAY!

General Electric Co., Dept. 166-CEP, Nela Park, Cleveland, O.—Send for new free book, "War Production Lighting" and further information on how light can help increase night shift production.

Name .....

Company .....

Address .....

When inquiring specify CEP5716 . . . see information request blank, pgs. 2-3





● These two filters on the roof of the plant of a large carbon company reclaim materials, protect health of workmen, and aid production. Ever since their installation 13 years ago, they have given uniformly satisfactory service and during this period have effected big savings through materials reclaimed and better working conditions.

Sly Dust Filters provide exclusive advantages:

1. Greater filtering capacity because of more filtering cloth
2. Taut bags (patented) save power and improve dust removal
3. Bags more easily replaced
4. Automatic control (any degree) minimizes or entirely removes the human factor
5. Simpler shaker mechanism results in savings in maintenance and operation.

This is a typical instance of Sly service. More than 5000 Sly Filters control over 100 different kinds of dust in more than half that number of industries. Write us fully so that we may analyze your situation and tell you exactly what can be accomplished.

**SLY** THE W. W. SLY MFG. CO.  
4754 Train Ave., Cleveland, Ohio  
INDUSTRIAL DUST CONTROL

When inquiring specify CEP5717 — see information request blank, pgs. 2-3

## Simplify YOUR MATERIAL HANDLING METHODS with The "HAMMOND" Screw-Lift and Screw-Vveyor

The Screw-Lift operates smoothly, quietly and dependably without whip—due to exclusive SCREW CONVEYOR CORPORATION design. And you can elevate to unprecedented heights. The Screw-Vveyor offers many new advantages due to its tubular construction, particularly, ease of maintenance—each installation is dust-tight, moisture-proof and weather-proof.

Any free flowing bulk materials can be handled. If you elevate or convey, you owe it to yourself to investigate the "HAMMOND" Screw-Lift and Screw-Vveyor because they are a means of conveying and elevating entirely different from anything you've seen before.

For Screw-Lift data write for Analysis Form M-500-2.  
For Screw-Vveyor data write for Form M-600-1.

U.S. Pat. No. 2260811-  
2260812-2279201

Other U.S. and Foreign Patents Pending

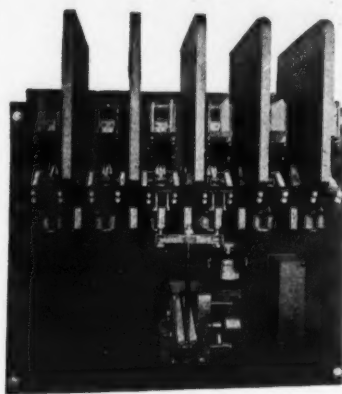
**Screw Conveyor Corporation**  
899 HOFFMAN ST. HAMMOND, IND.  
SCREW CONVEYORS HAMMOND ELEVATOR BUCKETS  
TRADE MARK REG. PRODUCTS U.S. PAT. OFFICE

When inquiring specify CEP5718 — see information request blank, pgs. 2-3

## PRODUCTION

### Breaker Removes Short Circuits in Less Than 1/60 of a Second

*Design utilizes the effect of magnetic loop expansion; prevents burning contact surfaces, speeds contact separation*



BREAKER REDUCES ARC BACK

**Uses** — Circuit breaker developed to minimize arc back and lessen possibility of power interruptions in industrial plants using direct current for the reduction of vital metal such as aluminum and magnesium and for various continuous processes.

**Features** — Breaker removes short circuits in less than one

cycle or faster than 1/60 of a second.

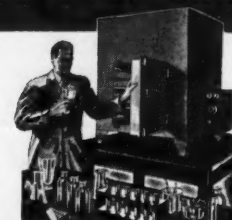
**Description** — In large installations where a number of rectifiers are operated in parallel when arc back occurs current increases greater than ten million amperes per second have been observed. For a single rectifier the rate of increase of current can be as much as six million amperes per second. Such rates of rise are due to the fact that current flowing through the anode circuits of a rectifier immediately feeds into the anode circuit where the arc back occurs. Other rectifiers on the same bus will also feed into the faulty circuit. This reverse current flow in the circuit of the faulty anode circuit must be interrupted before it reaches proportions that will cause damage to the rectifier and associated equipment such as bus and transformers. By interrupting the current in less than one cycle, the new circuit breaker limits the current that can flow into the faulty anode to values of less than fifty thousand amperes. One reason why the breakers can do this is because its design utilizes the effect of magnetic loop expansion. This works to a double advantage. Where the circuit is normal, the increased pressure at the contacts prevents burning of their surfaces. When the breaker is tripped during abnormal circuit conditions the magnetic loop expansion effect helps get the contacts separated quickly. Low inertia moving parts in the device further speed the break. A high speed directional trip initiates the opening of the contacts. Responsive only to the reverse current flow of an arc back, it starts the action of the new breaker in less than one-half cycle. Breaker has an arc chute of the magnetic blow-out type which multiplies the magnetic effect of the current through it and rapidly lengthens the arc back to its extinguishing point. Breaker automatically closes the cleared circuit in about one minute. Identified as Type AG — 1 Breaker.

GENERAL ELECTRIC CO., Dept. CEP, Schenectady, N. Y.

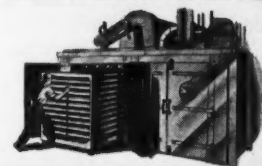
When inquiring specify CEP5719 — see information request blank, pgs. 2-3

If you are a responsible process executive CHEMICAL EQUIPMENT PREVIEW will be sent to you personally if you request the publishers to do so... there will be No Charge. See request slip between pages 82 and 83.

## DESPATCH CHEMICAL DRYERS WIN VICTORIES OVER TIME



IN THE LABORATORY



IN PRODUCTION

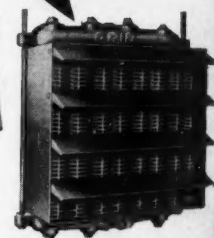
Write for Bulletin No. 105-X for complete information on laboratory ovens. Call for a Despatch engineer to recommend the proper dryer for your production.

**DESPATCH** OVEN  
COMPANY  
MINNEAPOLIS MINNESOTA

When inquiring specify CEP5720 — see information request blank, pgs. 2-3



**HERE'S**  
Your Copy  
to help you  
Solve Heating  
Problems



It describes fully, with capacity tables, the GRID Unit Heater now made with high test cast iron heating sections, to cooperate with the war effort in conservation of materials. The Cast Iron GRID Unit Heater is engineered and constructed for dependable service and long life — a special design for performance... Patent applied for. Free from corrosion, leaks or breakdowns — no electrolysis as only one type metal is in contact with steam or hot water. Will withstand up to 250 lb. steam pressure. Write for your copy now.

**D. J. MURRAY MFG. CO.**  
Offices in Principal Cities.  
WAUSAU, WISCONSIN

**GRID  
UNIT HEATER**

When inquiring specify CEP5721 — see information request blank, pgs. 2-3



## Get GAST Recommendations for **SPECIAL PUMPS**

VACUUM AND PRESSURE

**TYPICAL APPLICATIONS**  
... of GAST  
Engineered-to-the-job Pumps

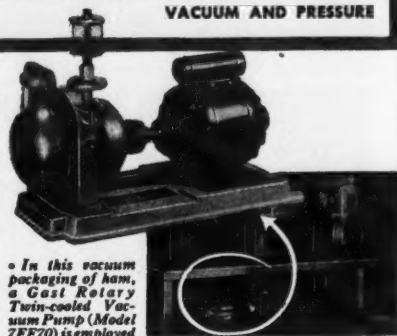
### VACUUM

Refining lubricating oils • Operating automatic chuck-on machine tools • Testing instruments • Operating milking machines • Paper feeding, printing-presses.

### PRESSURE

Industrial oil burners • Spraying paint or chemicals • Atomization of liquids • Generating cooking gas from liquid fuels—and many hundreds more.

**GAST**  
ROTARY AIR  
PUMPS



• In this vacuum packaging of ham, a GAST Rotary Twin-cooled Vacuum Pump (Model 7FF70) is employed

### BENEFIT BY GAST ENGINEERING EXPERIENCE

• Manufacturers who bring their pump problems to us find GAST engineered-to-the-job pumps step up performance, reduce operating troubles and increase output. The unique GAST Rotary design provides a more efficient, lower cost operating unit, specially designed for your machine and embodying these features: 1-Smooth, non-pulsating steady flow of air.

2-Forced-Air-Cooling, supplying greater air volume without complicated water systems. 3-Automatic Take-Up, which compensates for wear. 4-Compact design, saving space and weight.

COMPLETE LINE includes 12 sizes, GAST Rotary Air Pumps,  $\frac{1}{4}$  to 23 C.F.M. Vacuum to 28". Pressures up to 30 lbs.

Send for catalog containing specifications, engineering data and performance tables.

**GAST MFG. CORP.**  
101 Hinkley St.  
Benton Harbor, Mich.

When inquiring specify CEP5722 — see information request blank, pgs. 2-3

## PRODUCTION

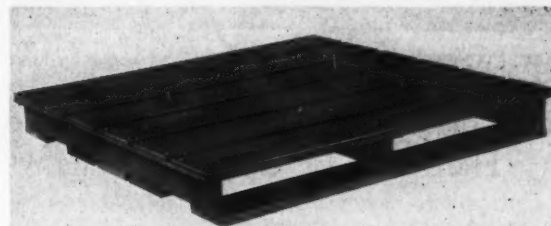
### Pallet Made of Replaceable Wood Slats Bolted Over Steel Frame

*Conserves vital metals yet retains strength and utility; steel ends afford protection*

**Uses** — To provide a pallet that will fully meet requirements as imposed by various materials and materials handling operations and at the same time use a minimum of vital materials.

**Features** — Bolted construction employed in this new type pallet permits quick and easy replacement of wooden slats. The steel ends protect the pallet from damage by power fork trucks.

**Description** — Top and bottom of pallet are constructed



WOOD AND STEEL PALLET . . in numerous sizes

of wood slats, reinforced with steel at the ends and in the center. Vital metal is conserved yet strength, all around usefulness and ease of handling is preserved. Pallets are offered in several sizes to meet any ordinary materials handling needs.

UNION METAL MFG. CO., Dept. CEP, Canton, Ohio.

When inquiring specify CEP5724 — see information request blank, pgs. 2-3

### Filter Papers for Use Over Cloths and for Very Delicate Solutions

*First designed to give superior cloth protection, second features high retention quality*

**Uses** — The first of these two new filter papers is identified by the manufacturer as No. 755-2 and is especially recommended for use over filter cloth in commercial filtering.

**Features** — Very high wet strength permits the stripping of the "cake" without tearing or disintegrating. Also, the cake will not be contaminated with lint from the paper adhering to it.

**Description** — Designed to prolong life of filter cloths and has the advantage of being suitable in cases where the "cake" or residue is to be saved. Can be removed without tearing or disintegrating. This is a pure white paper, acid washed. High wet strength, permitting handling with wet "cake". Supplied in any widths up to 24 inches. The second paper, No. 850 is especially adapted to filtration of very delicate solutions even being suitable for intravenous and sub-cutaneous injectables. Also has high retention and lintless qualities. Pure white, very close texture and washed with nitric acid. Moderate wet strength. For commercial and laboratory funnels.

HENRY E. JACOBY, M. E., Dept. CEP, 205 East 42nd St., New York, N. Y.

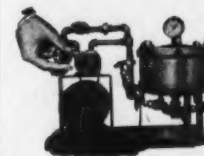
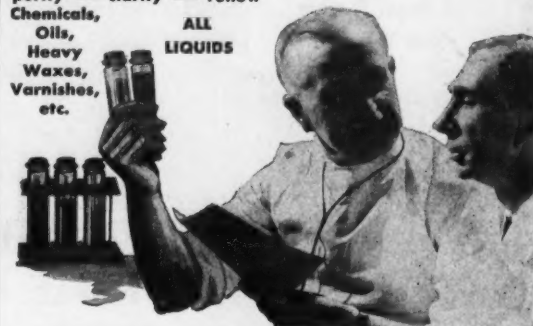
When inquiring specify CEP5725 — see information request blank, pgs. 2-3

## Laboratory Tests Prove

### SPARKLER FILTERS

*purify — clarify — renew*  
Chemicals,  
Oils,  
Heavy  
Waxes,  
Varnishes,  
etc.

ALL  
LIQUIDS



Laboratory Size

Take a sample of any liquid after it has lost its efficiency, and is off-color and full of sediment. Put it through a Sparkler Horizontal Plate Filter, then take a sample of the cleaned liquid — examine it closely — and note the result is a clear, brilliant solution restored to its original condition, color and usefulness. A size and special design for every filtering requirement.

Write us about your filtering problems.

SPARKLER MANUFACTURING CO.

243 Lake Street — MUNDELEIN, ILL.

### SPARKLER FILTERS

WITH THE HORIZONTAL PLATES  
1 Pint to 10,000 Gallons per hour.



When inquiring specify CEP5726 — see information request blank, pgs. 2-3

## Over 130,000 Sold



- Quicker Heating
- Small Size
- Light Weight
- One Moving Part
- Low Price

*Sold by more than 100 Mill Supply Distributors throughout the U. S. A.*

See your supply house or write for Catalog T-1736.

YARNALL-WARING CO., 125 Mermald Ave., Phila.

**YARWAY**

## IMPULSE STEAM TRAP

When inquiring specify CEP5723 — see information request blank, pgs. 2-3



*New*  
**SOUTH BEND  
TURRET LATHES**  
Speed-Accuracy-Versatility  
FOR HIGH SPEED PRODUCTION

No. 1003-Z South Bend Turret Lathe.  $1\frac{1}{4}$ " spindle hole,  $10\frac{1}{2}$ " swing over bed, and 1" maximum collet capacity.

For the efficient production of small duplicate parts—with a high degree of precision—you can depend on the new Series 1000 South Bend Turret Lathes. Modern in design, these lathes can be relied upon for exacting, close-tolerance operation. They have smooth power and speed for producing a fine finish. Their versatility makes them especially adaptable for second operation work. Write for catalog.



**SOUTH BEND LATHE WORKS**

South Bend, Indiana

LATHE BUILDERS FOR 35 YEARS

When inquiring specify CEP5727 — see information request blank, pgs. 2-3



It's As Easy As This →

To Avoid Trouble  
Like This ↓



## with G-E HEATING CABLE

YOU can avoid hazards by keeping eaves and gutters clear of ice and snow with G-E heating cable. Just lay it in the gutter or string it along the eaves.

This cable has many other uses, too. Hang it in downspouts, wrap it around pipes, cast it in concrete. You can fit it into almost any job requiring heat up to 165 F.

Buy it by the foot, or in assemblies. Order from a G-E

distributor our nearest office, or direct from General Electric Company, Section 675-54, Schenectady, N. Y.

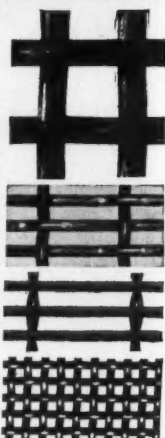


GENERAL ELECTRIC

When inquiring specify CEP5728 — see information request blank, pgs. 2-3

## Yes there are DIFFERENCES IN WIRE CLOTH

✓	ACCURATE MESH
✓	UNIFORM GAUGE
✓	WHEN GALVANIZED- SMOOTHER, HEAVIER COATING, BETTER BOND
✓	CONTROLLED CRIMPING
✓	LONGER LIFE UNDER VIBRATION
✓	EFFICIENTLY SERVING OVER 97 TYPES OF INDUSTRIES



FREE

Catalog No. 11-AC chock full of helpful information for wire cloth users.

WRITE TODAY



MADE BY THE MANUFACTURERS OF INDUSTRY'S FINEST WIRE CLOTH

**Buffalo WIRE WORKS CO., INC.**  
ESTABLISHED 1869 AS SCHEELER'S SONS

419 TERRACE BUFFALO, N. Y.

When inquiring specify CEP5729 — see information request blank, pgs. 2-3

## PRODUCTION



ARC ETCHING MACHINE . . . simplifies and speeds-up marking of tools, parts and other metals

## Electric Arc Etcher For Soft To Hard Flat or Curved Metals

Unit assembled in compact case; available with or without pantograph, base and table

**Uses** — Designed for rapid, accurate, high production etching or individual marking of soft to hard metals including hardest steels. Efficient on highly polished surfaces making it possible to mark goods in finished state. Handles etching in inaccessible places such as inside cylinders, on convex, concave surfaces. Marks pins, gears. Even delicate parts, .0015 in. thick (feeler gauge stock). **Features** — Operators without previous experience in such work can learn to operate machine in very short time. Deeply etches hardened parts without burr. Either light or deep etching as desired is available at turn of a dial.

**Performance** — Machine is capable of light or deep etching on flat or irregular, concave or convex curvatures without need of forming guide, with self adjusting vertical movement up to 3/4 in. which automatically follows contours at a speed of 120 arcs per second. Etching depth is variable by one dial control from .0001 in. to .003 in. deep. Width is variable by diameter of electrode used from .0075 in. to .015 in. (Three sizes of electrodes available — average life four or five hours steady work depending on depth of etch.) Characters can be varied from 1/32 in. to much larger size.

**Operation** — This electric arc etching process requires no acid, pressure, stress or strain. Utilizing principle of electric arc in motion, precision controlled by pantograph tracing from a master, the arc produces an etch of fine legibility, uniformity and clean finish. Characters are accurate reproductions of the master. The etching is done by a tiny tungsten wire electrode oscillated vertically 120 times per second by a magnetic motor. Each time the electrode touches and leaves the metal work piece, a high amperage electric circuit is made and broken, creating an extremely hot arc. Simultaneously as the electrode is moved by the pantograph over the work, a steady succession of overlapping tiny craters form the etching. Depth is controlled by amount of current; width by diameter of electrode used. Operator merely traces along the lines of the master with one hand and with the other holds down the feed button. Usually no preparation of work is required and only a simple holding fixture is needed. Pantograph and etching unit do the rest and a steady suc-

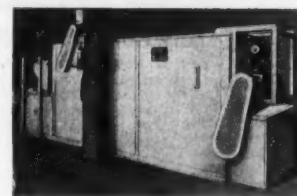
## "NATIONAL" DRYERS For the Chemical Industry

Designed to insure fast, uniform drying under all conditions, and built to give long, dependable service with important economies in operation and maintenance.



### TRUCK TYPE TRAY DRYER

For fast, efficient drying of chemicals in the batch. Dries entire load, uniformly, without dusting. Built to accommodate one or more trucks.



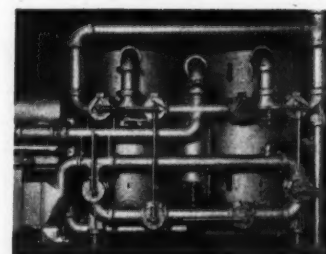
### CONVEYOR TYPE DRYER

Continuous hopper feed; uniform distribution of material on conveyor belt; pressure extraction and heating for the pre-drying.

"NATIONAL" builds Chemical Dryers of all types, each designed to meet specific requirements. If you are planning to install new dryers or to modernize existing equipment, "NATIONAL" engineers will gladly submit recommendations. Write, wire or phone.

**The National Drying Machinery Co.**  
2709 N. HANCOCK STREET, PHILADELPHIA, PA.

When inquiring specify CEP5730 — see information request blank, pgs. 2-3



for  
**DRY**

## PROCESS GASES KEMP SILICA GEL DEHYDRATORS

... guarantee the **exact** degree of dryness you need in **your** process gases. Designed by gas equipment engineers and proven by an impressive record of dependable and economical operation in plants demanding constant and exact drying of their process gases.

For additional information write

**The C. M. Kemp Manufacturing Company,**  
405 E. Oliver Street,  
Baltimore, Md. — ask for Dryer Bulletin.

### STANDARD UNITS BUILT TO GIVE:

**CAPACITIES:** 10 to 100,000 c. f. m.  
**PRESSURES:** Atmospheric to 2500 lbs. per square inch.  
**ADSORBENT:** Silica Gel, high capacity, long life.  
**ACTIVATION:** By gas, electricity, or steam as desired.  
**TYPES:** Single or twin towers for intermittent or continuous operation.

## KEMP of BALTIMORE

When inquiring specify CEP5731 — see information request blank, pgs. 2-3



## NEW PORTABLE CONVEYOR SPEEDS PACKAGE HANDLING



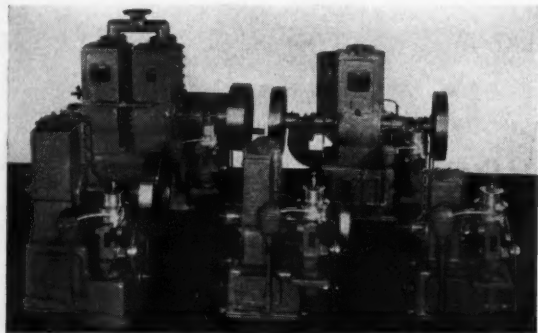
Buschman ROLL-OR-WHEEL portable conveyors speed package handling in production, or to and from loading platforms, trucks, box cars, stockrooms and warehouses.

In 10-foot, straight or curved sections—coupled to any length—roller or wheel equipped—easel, caster or tripod supports—quickly, easily set up, or moved from place to place where needed. Ideal for narrow aisles, crowded quarters.

Write for Bulletin No. C-36, showing many applications.

**THE E. W. BUSCHMAN COMPANY, INC.**  
418 NEW STREET CINCINNATI, O.

When Inquiring specify CEP5732 — see information request blank, pgs. 2-3



## Need High Vacuum Pumps?

Stokes High Vacuum Pumps draw and maintain vacuum within a fraction of a millimeter of absolute, in hard, continuous service. They provide, economically, the higher vacuum needed for

- processing heat sensitive chemicals or foods, etc.
- reducing oxidation in metals or chemicals
- more rapid drying at lower temperatures
- more efficient drying and impregnating

Stokes Pumps are simple, rugged, oil-sealed, with only three internal moving parts. They require little power and only a minimum of maintenance. Capacities from 10 cu. ft. to 225 cu. ft. . . . and most sizes in stock for prompt delivery. Write or wire.

**F. J. STOKES MACHINE COMPANY**  
5974 Tabor Road Olney P. O. Philadelphia, Pa.



When Inquiring specify CEP5733 — see information request blank, pgs. 2-3

## PRODUCTION

cession of pieces can rapidly be turned out.

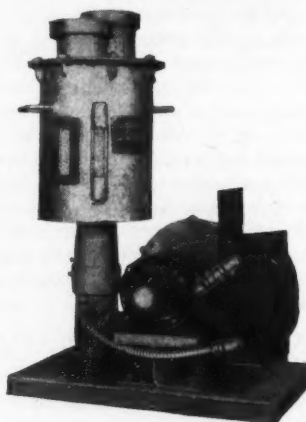
**Description** — Choice of 3:1 or 6:1 pantograph. Areas covered by the etcher electrode point are of 3:1 up to 5 in. diameter circle, a  $4\frac{1}{2}$  x 5 in. rectangle or 4 in. x 8 in. long strip. 6:1 up to 3 in. diameter circle, a  $2\frac{1}{4}$  in. x 4 in. rectangle or 2 in. x 5 in. long strip. (Adjustable pantograph — 3:1 to 100:1 optional at extra cost). Entire machine occupies space 31 in. x 29 in. wide x 44 in. high. This model No. A-E includes base, work table, pantograph — a simplified combination of etching machine and etcher head. Unit itself known as "Spit-Fire" Arc Etcher Unit consisting of etcher head and control is assembled in compact carrying case. It may be secured separately by those already having a pantograph, as it fits any conventional make, being easily attached. Etcher unit in case includes control panel, built-in transformers, switches, cables and 36 assorted electrodes. 110-120 v. 60 cycle AC only. Etching voltage stepped down, variable 3-9 v. Current consumption 25 watts maximum. Bulletin Form 1635-A contains detailed specifications and illustrations and also shows pantograph engraving unit.

GEORGE GORTON MACHINE CO., Dept. CEP, Racine, Wis.

When Inquiring specify CEP5734 — see information request blank, pgs. 2-3

## Breathers Bar Moisture, Indicators Show Reactivation Requirements

*Mounted on or piped to chemical or oil tanks; adsorbents are activated aluminas*



BREATHER protects chemical tanks against moisture

**Uses** — These units are used to prevent the entrance of atmospheric moisture into oil and chemical tanks and to determine by means of color indicators, with which they are equipped, when reactivation is needed or when it is complete.

**Description** — Breathers permit only dry air to enter tank when it is emptied or when air enters due to temperature drops. They are mounted either directly on the tank or piped to it and are equipped with color indicators

for determining when reactivation is needed and when it is complete. Air leaving the tank being thoroughly dry has a partial reactivating effect which makes possible long periods between reactivations. Where several tanks are to be served it is the standard practice to use one breather on each tank and one central reactivator. Reactivators are built for electrical operation as standard for all units or for steam operation on larger units. Breathers used activated aluminas as adsorbents. Special breathers are available for use on transformers or other equipment where atmospheric moisture is harmful. Equipment is known as "Lectrobreaters."

PITTSBURGH LECTRODRYER CORP., Dept. CEP,  
1024 32nd St., Pittsburgh, Pa.

When Inquiring specify CEP5735 — see information request blank, pgs. 2-3

## Nature makes the Rules for DUST COLLECTION



**So You Get Low Plant Cost Plus High Over-All Efficiency in NORBLO**

The old-fashioned bag-house for fume and dust collection was based on gravity separation following almost total velocity drop caused by air expansion. NORBLO Automatic Bag Type Collectors take the place of the bag-house and give you a more modern application of its least-action principles to save space and handle large volumes of fume per minute at highest over-all efficiency and lowest over-all cost of the system.

NORBLO Automatic Bag Type Fume Collectors are designed for continuous heavy duty operation, with progressive and cyclic bag shaking and cleaning which maintain the collecting capacity of the unit at maximum 24 hours a day. We also build NORBLO Standard Bag Type Dust Collectors for non-continuous service and NORBLO H. E. L. S. Cyclone and NORBLO Hydraulic Collectors for stack dust recovery. Write for descriptive folders.

**Norblo**  
**DUST COLLECTION**  
THE NORTHERN BLOWER COMPANY  
6409 BARBERTON AVENUE • CLEVELAND, OHIO

When Inquiring specify CEP5736 — see information request blank, pgs. 2-3



## NOZZLES

for the

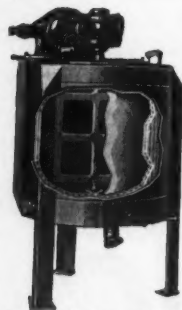
## CHEMICAL INDUSTRY

SEND for our Nozzle Catalog. It contains performance data on the right size and type of nozzle for practically any spray application or processing problem. We maintain a large stock at all times to take care of immediate shipments. Prompt attention given to orders requiring special alloys.



**SPRAY ENGINEERING CO.**  
113 Central St. Somerville, Mass.

When inquiring specify CEP5737 — see information request blank, pgs. 2-3



50 gal. heater; selective thermostatic control—100°-600° F.; with or without agitator; heater outlets to suit. Other heaters 2 qts. to 150 gals.

★ The more efficient heating of compounds with Sta-Warm equipment makes materials go farther, perform their function better, speeds production for Victory. Sta-Warm automatic heating relies less on the operator's skill, prevents spoilage of materials, saves man hours. Sta-Warms are built in any shape and size, for heating and melting any substance, compound and metal. The broad and varied experience of Sta-Warm engineers is at your command to design equipment exactly adapted to your needs. This service is freely available to you without obligation.

WAXES  
COMPOUNDS  
SOLDER  
ADHESIVES  
CHEMICALS  
KOROGEL  
KOROLAC  
PITCH  
ASPHALT  
PARAFFIN  
OILS  
RESINS  
MARINE GLUE  
PAINT

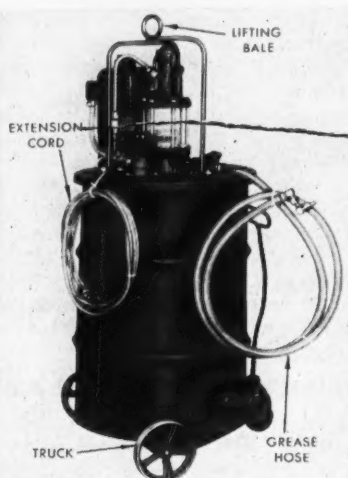
**STA-WARM ELECTRIC CO.**  
999 N. CHESTNUT ST. • RAVENNA, OHIO

When inquiring specify CEP5738 — see information request blank, pgs. 2-3

## PRODUCTION

### Electric Hydraulic Barrel Pumps For Standard Lubricant Drums

*Easily transferred from drum to drum, handy in filling bearings along production lines*



BARREL PUMP . . for handling various lubricants

**Uses** — For pumping lubricant direct from standard 55 gallon — 440 pound drum. Adaptable to a wide variety of lubricant handling requirements. Serviceable alongside production lines in filling bearings of numerous mechanical products prior to shipment, in setting up machinery, in maintenance and repair work.

**Features** — Unit easily transferred from one drum to another with a

hand hoist or lifting bar. Fully inclosed — sealed against the entry of air, guarding pump air stream from dust and dirt. Self-lubricating and require little service.

**Description** — Equipped with 1/2 HP motor connected directly to hydraulic pumping unit located in the bottom of the hydraulic reservoir. Oil from the hydraulic reservoir is pumped through a reversing mechanism which operates the pumping piston. This piston is double acting. Consequently the pump discharges lubricant on both the up and down strokes, maintaining a constant, continuous discharge. Pumping action is entirely automatic. No springs or cans are used. Operation of pump controlled by automatic pressure switch. Three sizes of pumping units and two sizes of piston reversing mechanisms are available. Descriptive engineering bulletin available.

TRABON ENGINEERING CORP., Dept. CEP, 1814 East 40th St., Cleveland, Ohio.

When inquiring specify CEP5739 — see information request blank, pgs. 2-3

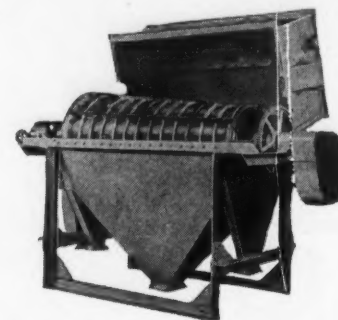
### Stratosphere Chamber Tests Plane, Radio Parts Rapidly, Accurately

*Provision for attachment of shafts or belt drives to mechanical parts on test inside the chamber*

**Uses** — To test the mechanical parts of aircraft and also radio used in high altitude work.

**Performance** — Chamber operates between temperatures of plus 200 degrees F. and —75 degrees F., with an internal pressure variation from ambient at the location of the unit to 3" of mercury absolute. Both the pressure and the temperature variation are controllable throughout their ranges. Humidity control is from 25% to 95%, relative to all temperatures above plus 40 degrees F., or at a fixed bottom temperature of plus 32 degrees F. Below this level, absolute humidity will correspond to the air saturation at the coil temperature which will average

## DUST-PROOF FORCED BOLTING MACHINE



This machine is built primarily for dust-proof bolting of products that are lumpy or difficult to bolt.

Rugged in construction and efficient in its operation, the unit has proven applicable in numerous bolting problems.

Send us details of your requirements and ask for complete information. Write:

**SPROUT, WALDRON & COMPANY, INC.**

181 Sherman Street

Muncy, Pennsylvania

Engineers — Designers — Manufacturers

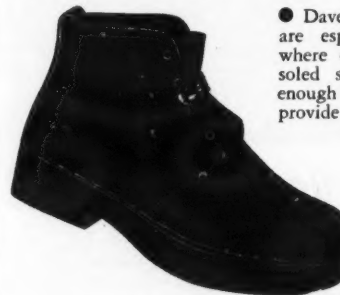
Since 1866

When inquiring specify CEP5740 — see information request blank, pgs. 2-3

## LOW COST — COMFORTABLE

## DAVENPORT

### WOOD SOLE SAFETY SHOES



● Davenport Wood Sole Shoes are especially designed for use where ordinary leather or rubber soled safety shoes do not offer enough protection. Wooden Soles provide sure footing on damp, slippery floors. Hot and rough surfaces cannot injure your workers' feet. Perspiration of the feet is more rapidly dispersed with Wood Sole Shoes.

Comfort as well as foot protection is built into all Davenport

Wood Sole Shoes. Vamp and uppers are of pliable oiled grain leather. Counters are made of first grade sole leather. Thick felt insoles provide additional comfort. Soles are of close-grained maple and have correct rock from heel to toe for ease in walking. All Davenport Wood Sole Shoes are available with Safety Toes which resist pressures up to 4000 lbs.

Wide variety of styles, each designed for a particular industry.

WRITE TODAY for FREE Catalog listing complete lines of Shoes and latest prices.

**F. J. STAHMER SHOE CO.**

World's Largest Exclusive Manufacturer of Wood Sole Footwear  
3199 Boies Avenue Davenport, Iowa

When inquiring specify CEP5741 — see information request blank, pgs. 2-3

CHEMICAL EQUIPMENT PREVIEW



**FASTER, EASIER CARTON STITCHING**  
→ → → with → → →

## ACME SilverStitchers

"... we have doubled our production of stitched cartons and this would not have been possible without the use of your equipment and wire."

That's the record the operator in the illustration compiled with an Acme Silverstitcher and Silverstitch stitching wire. Together, they form a triple-threat combination that slashes previous production records and cuts costs at the same time.



Nor are such records as this uncommon. Scores of Acme Silverstitcher users report time and money-saving results. As indicated in the illustration, many concerns are employing women to operate these extremely easy-to-use Acme Silverstitchers... as wartime needs call men to other duties.

Acme Silverstitchers are made in standard and special sizes and types... to meet every stitching requirement. Together with Acme Silverstitch, they assure better, faster, easier stitching. Write for full details today.

### ACME STEEL COMPANY

2808 Archer Avenue, Chicago, Illinois

BRANCHES AND SALES OFFICES IN PRINCIPAL CITIES

When inquiring specify CEP5742 — see information request blank, pgs. 2-3

## A new answer for your hot water problems



For:

- Instantaneous water heating
- Feed water preheating
- Booster service
- Process liquid heating
- Source of hot water for space heating

THERE is nothing new about the design and operation of the new Johnson Steel "Instant" Heater. It has the same simple, sturdy construction that made the original Johnson Copper Tube Heater the simplest and easiest way to heat water with steam. It hooks right up to your high pressure steam line—needs no reducers.

The big news about this new Johnson Heater is its all steel construction, which offers two important benefits—lower cost and prompt delivery. By designing this heater to avoid use of hard-to-get materials, Johnson is prepared to ship you an "Instant" Heater right now.

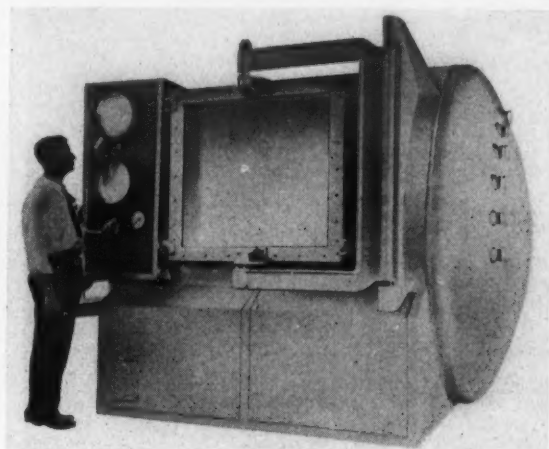
Write for comprehensive bulletin showing sizes and capacities.

Product of The Johnson Corporation

826 WOOD ST., THREE RIVERS, MICHIGAN

When inquiring specify CEP5743 — see information request blank, pgs. 2-3

## PRODUCTION



STRATOSPHERE TEST CHAMBER... has 200 F to -75 F range to test aircraft parts

15 to 20 degrees lower than the chamber temperature. There has been opportunity for representatives of manufacturers to test their products in the chamber at the company's factory. Typical was a test made by engineers of organization producing aircraft, both output and input of the product were determined accurately under stratospheric conditions. In four hours time results were obtained that would have taken days to accomplish by utilization of special test plane and test pilot.

**Description** — This stratosphere unit which has an interior chamber volume of approximately 245 cubic feet, uses "Freon — 12" as a refrigerant. The refrigeration effect or heat acceptance from the chamber, is by forced convection through the coils designed for low temperature work. Each coil will accept a minimum of 200 BTU per degree at -75 degrees F. and 3" mercury pressure. Heating equipment for high temperatures is composed of strip heaters so arranged that the forced convection circulates air during the heat cycle. Three indicating recorders are provided for continuous recording of temperatures, pressure and humidity. Twelve mechanical connector shafts through the outer shell of the chamber project inside the liner, permitting the attaching of either a flexible shaft, an angular rigid shaft or a small belt drive to any mechanical part that may be mounted in test position in the chamber. Eighteen electrical connections are provided. A separate machine compartment is located back of the unit but may be placed adjacent to the end. Further details regarding this equipment are available upon request.

KOLD HOLD MFG. CO., Dept. CEP, Lansing, Mich.

When inquiring specify CEP5744 — see information request blank, pgs. 2-3

## How to Ship More Economically in Corrugated Shipping Boxes

Pocket-size booklet, twenty-pages and cover gives in text and pictures many timely and practical suggestions for cutting shipping costs by proper selection of containers. The various steps in shipping operation supervision from the time corrugated boxes are received through storing, packing, sealing, stacking and loading are covered. Booklet—"How to Ship More Economically in Corrugated Boxes" is available upon request.

HINDE & DAUCH PAPER CO., Dept. CEP, Sandusky, Ohio.

When inquiring specify CEP5745 — see information request blank, pgs. 2-3

Oceco Flame Arrestor Element photographed against the light showing the absence of obstruction—and easy inspection.



Above,—section of Oceco Flame Arrestor Element—actual size—and at the left, the rigid semi-steel housing, with "element" partially removed.

## OCECO Flame Arrestors with their Vertical Straight Through Passages

- 1 Positively prevent flame passage
- 2 Permit free tank venting
- 3 Minimize entrainment of condensates
- 4 Assure easy quick inspection

As thousands of users know, Oceco Flame Arrestors give real protection for tanks storing volatile liquids. The corrosion resisting "bank" or "element" assembled from flat and corrugated sheets of aluminum, arranged alternately to form vertical straight through passages is an absolute flame stop, — yet assures free tank breathing with minimum pressure drop. The entire absence of screens and tortuous channels minimizes entrainment of condensation and clogging, avoiding tank "cave-ins" and "blow-outs", — and permits easy inspection simply by looking through. Rigid gas-tight semi-steel housings of Oceco Vent Units provide maximum protection against the heat of nearby fires, not afforded when housings of lower melting point material are used.

Our recently completed Catalog No. V-50 gives complete details... Send for a copy today!

# OCECO

Division of

THE JOHNSTON & JENNINGS COMPANY

868 Addison Road

Cleveland, Ohio

Engineering and Sales Representatives in the Principal Cities

FIRE PREVENTION AND VAPOR CONSERVATION EQUIPMENT FOR VOLATILE LIQUID STORAGE TANKS

When inquiring specify CEP5746 — see information request blank, pgs. 2-3



## DUST-TIGHT — SANITARY



ELEVATOR  
CONVEYOR

MASS  
FLO

A SELF-CLEANING, self-feeding unit which conveys and elevates — operates at full or partial load — mass handling of all kinds of free-flowing material (soy-bean meal above) without breakage or dust. Low initial cost — low upkeep — easy to install.

Send for Catalog No. 730 which shows typical arrangements of the Jeffrey Mass-Flo and sizes available. Write today.

**THE JEFFREY MFG. COMPANY**

853-99 North Fourth Street

Columbus

Ohio

When inquiring specify CEP5747 — see information request blank, pgs. 2-3

## JESSOP Silver-Ply<sup>\*</sup> STAINLESS-CLAD STEEL for Synthetic Rubber Equipment

Jessop Silver-Ply Stainless-Clad Steel is now safeguarding compounds in synthetic rubber equipment during vital processing stages.

Silver-Ply Stainless-Clad Steel consists of a layer of stainless steel (usually 20% of ultimate thickness), inseparably combined with a backing of mild steel. It offers the acid resisting properties of solid stainless on the clad side and 20% clad actually conserves 80% of critical chrome and nickel. Jessop's Engineering Department will be glad to consult with you regarding use of stainless-clad steel, to overcome problems of corrosion and contamination.

<sup>\*</sup>Manufactured under U. S. Pat. Nos. 1,997,538 and 2,044,742.

**Jessop Steel Company**

WASHINGTON, PENNA., U. S. A.

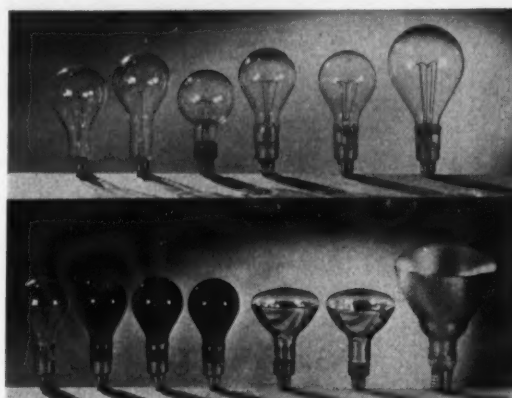


**JESSOP STEELS** FOR AMERICA  
AND HER ALLIES

CARBON • HIGH SPEED • SPECIAL ALLOY • STAINLESS • COMPOSITE STEELS

When inquiring specify CEP5748 — see information request blank, pgs. 2-3

## PRODUCTION



INFRA-RED LAMPS FOR HEAT TREATING . . low cost,  
light weight installations

## Infra-Red Lamps For Fast, Low Cost Baking, Drying and Dehydrating

*Faster baking, drying time, in some cases as high  
as 95 percent reported*

**Uses** — For baking, drying and dehydrating applications. Designed in keeping with the limitations imposed by War Productions Board. For fast economical and simplified method of heat treating.

**Features** — All lamps have M-type tungsten filament for uniform heat distribution and have their bases re-inforced with asbestos-lined mechanical straps to withstand the terrific temperatures of tunnel installations. The reflector types have built-in reflector linings of pure silver sealed inside the bulbs for protection against dimming or tarnishing by fumes or dirt. Light weight of lamp installations permit easy moving. Occupy small floor space. Low operating cost since full heat operation is started instantly and no fuel or time is lost in preheating.

**Operation** — These lamps are designed to produce Infra-Red or near Infra-Red rays that are converted into a deeply penetrating kind of heat as soon as they strike an object. Instead of heating from the surface slowly inward, the action is reversed. The Infra-Red rays penetrate deep down into the surface films of lacquers, paints and enamels to start the baking process from the inside out, instantly and uniformly.

**Description** — This complete line of Infra-Red heat lamps comprises six clear types, three ruby types, and four reflector types. Average burning life of all is in excess of 6000 hours.

WABASH APPLIANCE CORP., Dept. CEP, 345 Carroll St., Brooklyn, N. Y.

When inquiring specify CEP5749 — see information request blank, pgs. 2-3

## New 70 Hour Respirator Cartridge

*Alternate for short lived activated charcoal type  
as protection against organic vapors, acid gases*

**Uses** — This new filter cartridge has been designed especially for use with the manufacturer's respirators of low resistance two cartridge type to provide maximum service for an extended period, as much as 70 hours, in protecting the user against light concentrations of metallic mercury vapors.

**Performance** — Laboratory tests have indicated the ability



A MOTOR FOR USE

IN MAGNESIUM AND ALUMINUM DUST . .  
and other combustible metal dusts

HERE'S a motor specifically approved by Underwriters' Laboratories, Inc., for service in the presence of magnesium dust, aluminum powder, and other combustible metal dusts. It fills a critical need of ordnance and metal-working plants, and of those handling combustible metals in powder form, or machining, grinding, or polishing combustible metals. It's another FIRST among G-E motors for hazardous locations. Bulletin GEA-3922 describes it—write today for your copy. General Electric Company, Schenectady, New York.

The typical Class II, Group E, motor shown above  
is available up to 125 hp

**GENERAL ELECTRIC**

When inquiring specify CEP5750 — see information request blank, pgs. 2-3

## THE LONG-LIFE COMBINATION

**PROMAL  
CHAINS AND  
FLINT-RIM  
SPROCKET  
WHEELS**



● Long after ordinary cast ferrous chain completes its normal span of service, a Promal chain usually works on and on, even though subject to adverse conditions.

Promal chains are tough under shock and strain; they are hard in the face of abrasion; they have great strength in proportion to weight and bulk.

Flint-Rim Sprocket Wheels resist abrasion and will last several times as long as gray iron wheels. They have fully demonstrated that they are the most durable and satisfactory cast type of tooth sprocket wheels.

For best results use them both in combination on your elevators, conveyors and slow speed drives.

**LINK-BELT COMPANY**  
Chicago, Indianapolis, Philadelphia,  
Atlanta, Dallas, San Francisco, Detroit,  
Boston, Los Angeles, Seattle, Portland, Ore., Toronto. Other offices and distributors in principal cities.

**LINK-BELT  
CHAINS AND SPROCKETS**

For Conveying and Mechanical Power Transmission

When inquiring specify CEP5751 — see information request blank, pgs. 2-3



## PRODUCTION

of this cartridge to provide 70 hours of protection in a concentration of 4.6 per million of mercury vapors.

**Description** — This cartridge is intended for protection against light concentrations of organic vapors and acid gases whether occurring separately or in combinations. Cartridge is introduced under name, "Mersorb." Information regarding it and respirators on request.

MINE SAFETY APPLIANCE CO., Dept. CEP, Braddock, Thomas and Meade Sts., Pittsburgh, Pa.

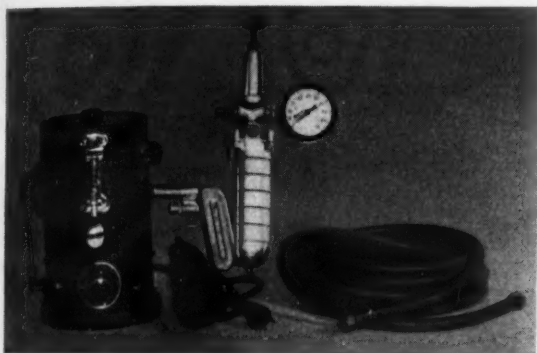
When inquiring specify CEP5752 — see information request blank, pgs. 2-3

## Portable Metal Spray For Neutral Alloys Melting At Or Under 600° F

*For making templates, spotting dies, reproducing molds; used without special protection for operator; easily adjusted*

**Uses** — For spraying any neutral alloy which has a melting temperature of up to 600 degrees F. Adapted to making templates, spotting or checking dies, reproducing dies.

**Features** — Designed for great accuracy of reproduction or where the same operation needs a high speed of depositing metal for "backing-up" purposes. Sprayer is simple in design and requires only connection with electric power and factory air lines for operation.



METAL SPRAYER . . . with melting pot, gun, air hose, electric cord . . . applies neutral alloys

**Description** — The sprayer is a twelve cubic inch capacity model and is equipped with electrical elements for heating the metal in the heavily insulated pot. Temperature control is variable to suit individual alloys over a range of one hundred degrees by means of a rheostat switch knob on the outside of the pot. A thermostat holds the metal at any pre-set temperature. Latch cover automatically seals the top of pot against air leakage during the spraying. Heating contents of pot requires approximately twelve minutes. For production spraying, gun can be filled from auxiliary melting pot. Gun trigger controls actual spraying. Air pressure entering top of pot can be regulated to govern amount of metal supplied for deposit. Special protection for the operator, other than adequate ventilation, is said to be unnecessary and that light work may be held in the hands without danger of burning. Sprayer complete with gun (containing the electrical heating elements, insulated melting pot, control handle and nozzle) fifteen feet of air hose and nine feet of electric cord.

ALLOY SPRAYER CO., Dept. CEP, 2040 Book Bldg., Detroit, Mich.

When inquiring specify CEP5753 — see information request blank, pgs. 2-3



## Why the CONCAVE SIDE Cuts Belt Costs!

What Happens  
When a  
V-Belt Bends



FIG. 1



FIG. 2

If you care about belt costs, pick up any V-belt you have handy and make this simple test:—

Bend the V-belt while you grip its sides and you will feel how the belt changes shape. The top, under tension, narrows. The bottom widens. The sides of the belt bulge out. Clearly, if its sides were straight to begin with, the bent belt is forced into a shape that does not fit the sheave groove—as shown in figure 1, on the left.

Now, bend a V-belt built with the patented Concave side. You get the same shape change, but now the new shape exactly fits the sheave groove—as shown in figure 2. There is no side-bulge. Results? (1) Uniform side-wall wear—longer life! (2) The belt gets a full side-width grip on the pulley—carries heavier loads without slippage. This cuts belt costs and saves power.

Only belts built by Gates are built with the Concave side, which is a Gates patent.

## THE GATES RUBBER COMPANY

Engineering Offices and Stocks in All Large Industrial Centers

# GATES VULCO ROPE DRIVES

Chicago, Ill.  
549 West Washington

New York City  
215-219 Fourth Avenue

Birmingham, Ala.  
405 Liberty National Life Bldg.

Los Angeles, Cal.  
2240 East Washington Blvd.

Denver, Colo.  
999 South Broadway

Dallas, Tex.  
2213 Griffin Street

Portland, Ore.  
333 N. W. 5th Avenue

San Francisco, Cal.  
2700 16th Street

When inquiring specify CEP5754 . . . see information request blank, pgs. 2-3



# LESS WASTE

## IN CRUSHING SEMI-FRIABLE MATERIALS

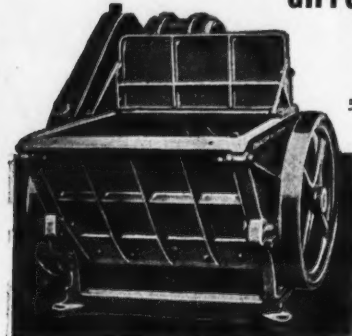
For economically crushing and sizing various semi-friable materials, the Creasey Ice Breaker has found exceptional application in the chemical industries. A socket type pick drum (picks are replaceable) chips off material and adjustable comb plates regulate the particle size efficiently, quickly and with a minimum of unuseable fines. Creaseys have a reputation for ruggedness and durability — a reputation which is more than half a century old.

Model 48 MD, here illustrated has a capacity of 50 tons per hour. Other models range down to laboratory size.

Write for Bulletin 117 which gives complete information on the entire Gifford-Wood line.

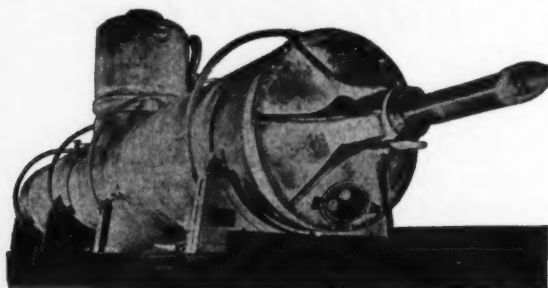
### GIFFORD-WOOD CO.

HUDSON, N. Y.  
Founded 1814  
NEW YORK  
420 Lexington Ave.  
CHICAGO  
565 W. Washington St.



## CREASEY BREAKERS

When inquiring specify CEP5755 — see information request blank, pgs. 2-3



## Rotary Dryers ... Vacuum

- For rapid drying at low temperatures
- Under uniform atmospheric conditions

With Rotary Vacuum Dryers — stationary or tumbling type — drying conditions are standardized and speeded up. Dangers of over-heating, oxidation, contamination and spoilage are eliminated.

Consider this equipment for drying your dyestuffs, intermediates, reclaimed rubber, powdered or flaked metals, chemicals, food products, etc.

For 40 years we have pioneered high vacuum methods and equipment . . . specialized in apparatus for drying, evaporating, extracting, impregnating, etc. . . . equipment of any required capacity, and in special metals to meet all requirements. Consult with us.

F. J. STOKES MACHINE COMPANY  
5974 Taber Road Olney P. O. Philadelphia, Pa.

# F.J. Stokes



When inquiring specify CEP5756 — see information request blank, pgs. 2-3

## PRODUCTION

### Strainers for Cutting Coolants *Used on lathes, screw, milling and other machines; in models for both shallow and deep sump tanks*



COOLANT STRAINER . . . for  
metal cutting machines

and easily installed. Very efficient with cuttings that remain in suspension.

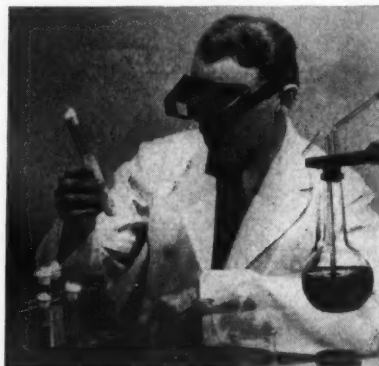
**Description** — Designed for passage of practically every drop of coolant through multiple layers of interstitial knitted and crimped mesh. Model "B" is especially designed for shallow sump tanks, milling and small automatic screw machines and has a capacity up to five g. p. m. Model "C" adaptable to most machines has a capacity up to ten g. p. m. It is especially suitable for deep, shallow sump tanks. Complete information regarding this "Metex" equipment is available from manufacturer on request.

METAL TEXTILE CORP., Dept. CEP, 4 Central Ave., Orange, N. J.

When inquiring specify CEP5757 — see information request blank, pgs. 2-3

## New Binocular Eye-Loop Magnifies with Clarity of Normal Vision

*Provides third dimension; fits comfortably over  
regular glasses; weighs 3 oz; non-inflammable*



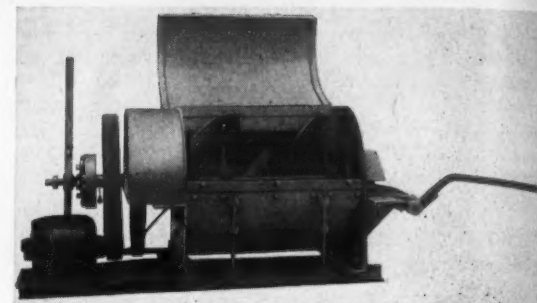
EYE-LOOP . . . magnifies three times,  
frees both hands for work

Wearer when not using lenses can look below the shade with his normal vision. Provides third dimension vision or true perception of depth.

**Description**—Frame is of strong plastic construction and has dual mounted lenses, ground from the finest optical glass. Enables user to see an object, greatly magnified,

**Uses** — To provide efficient straining of all metal cuttings and chips in cutting coolants. For use on turret lathes, screw machines, milling, drilling and other metal cutting machinery using 2 coolant flow.

**Features** — Saves valuable production time that would be required to perform frequent cleaning of pumps or replace damaged gears. New refills quickly



## Here's a Mixer that is fast and efficient —read the description

Cut shown has end discharge Number 1. It can be had in either end or side discharge.

Number 2 — all bearings guarded and SKF bearings are used.

V-Belt motor drive or geared head motor drive. Number 4 — rubber sealed cover to keep any dust from escaping.

Discharge door — Number 1 rubber sealed.

Built in capacity from 5 to 60 cubic feet.

Write for full information

## The Multiplex Concrete Machinery Co. Elmore, Ohio

When inquiring specify CEP5758 — see information request blank, pgs. 2-3

## Is HUMIDITY a Fifth Columnist in YOUR Plant?



Uncontrolled humidity is a potential saboteur in many plants. It can damage materials, wreck production schedules, ruin profits.

You can stop this fifth columnist by installing a Kathabar Moisture Control System. Kathabar regulates the humidity to exactly the degree you want for your most delicate processes, by either removing moisture from the air or adding to it. Kathabar is easy to operate with one simple control. Using a minimum of critical materials, it is available now to vital industries.

**GET free bulletin describing Kathabar.**  
Lists applications in processing  
industries, with full data. Write to

SURFACE COMBUSTION • TOLEDO, OHIO

# Kathabar

## CONTROLLED ATMOSPHERES

When inquiring specify CEP5759 — see information request blank, pgs. 2-3

CHEMICAL EQUIPMENT PREVIEW



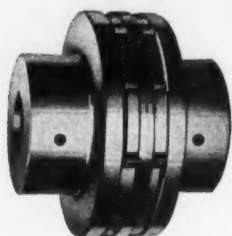
## Power Line Protection

from Misalignment — Starting Torque — Shock —  
Vibration — Intermittent Overloads.

**With L-R COUPLINGS resistant to  
CHEMICALS • HEAT • OILS • GASES**

L-R Couplings fulfill every condition of chemical and processing plants. Simplest construction. Longest life. NO LUBRICATION.

**L-R  
FLEXIBLE  
COUPLINGS**



**L-R TYPE "W"**

Pat. & Pat. Pend.  
Bores 1½" to 16¾", 2 to 2500 H.P.

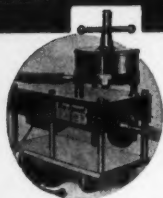
**Selector Charts with  
Catalog**

Helps transmission engineers and maintenance men select right coupling for any job. Also shows full line of L-R Couplings 1/6 H.P., up. Write.

**Lovejoy Flexible Coupling Co.**  
4976 W. Lake Street Chicago, Ill.

When inquiring specify CEP5760 — see information request blank, pgs. 2-3

## Today Filtration Is More Important Than Ever



Constant vigilance to keep liquid products completely cleaned and highly clarified will mean better and purer products with greater sales appeal.

With all impurities removed by the right filtration, possible contamination is avoided.

All this can be accomplished with perfect results by the use of

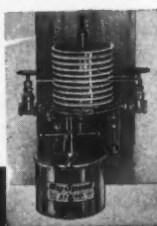
### ALSOP "SEALED DISC" FILTERS

All liquids are easily, quickly and economically filtered by the use of our low cost filter medium. (the filter disc that is sealed) and usually without filter aids. Filters are leakproof with no loss of valuable materials.

Supplied in all sizes in portable form for batch filtration or for pipe line connection.

**WATER OILS CHEMICALS  
JUICES ACIDS**  
Any degree of filtration desired  
Write for filter book or call our engineers

**ALSOP ENGINEERING CORP.**  
9 Alsop Square Milldale, Conn.



**"SEALED DISC"  
FILTERS**

When inquiring specify CEP5761 — see information request blank, pgs. 2-3

## PRODUCTION

with clarity and comfort of normal vision. Prism ground in each lens relieves eye strain. Shade shuts out side and overhead distraction. It fits comfortably over regular glasses. No distortion or unequal refraction of light rays. Plastic, non-inflammable, shade contributes to light weight which including lenses is three ounces. This device is called the "Magni-Focuser."

**EDROY PRODUCTS CO., Dept. CEP, 480 Lexington Ave., New York, N. Y.**

When inquiring specify CEP5762 — see information request blank, pgs. 2-3

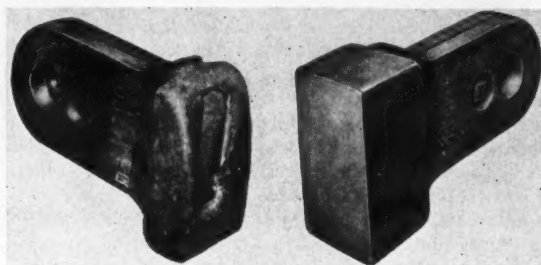
## Renewable Tip Pulverizer Hammer Gives Head Longer Service Life

*Great savings in weight of discarded parts, worn  
heads easily and quickly replaced*

**Uses** — For more economical operation of hammers in pulverizers and hammer mills and for easy and speedy replacement of hammer heads.

**Features** — Use of heads extending up to two-thirds consumption of metal before it becomes necessary to discard them.

**Description** — Renewable tip pulverizer hammer consists of weighted manganese steel head connected to the rotor by two matching arms or bars of manganese steel. On the lower end of each bar are hooks which engage internal pockets in the head. The bars are bolted together under the eye so that they form a one-piece arm; yet they are



**RENEWABLE TIP PULVERIZER HAMMER** . . worn head in hammer at left shows use of two thirds of metal

easily disengaged from the service worn head by unbolting. Illustration shows original hammer and extent of wear after considerable service. When new, complete hammer weighed 110 lbs.; arms 57½ lbs., head 52½ lbs. When worn total hammer weight was 74 lbs.; arms (still completely serviceable) weighed 57 lbs., head (scrapped) 16½ lbs. Over two-thirds of the metal in the head was consumed before it was necessary to discard it. Another set of hammers employs a slightly different design having the advantage of more bearing on the supporting shaft and visible hooks on shanks when assembled. This affords savings in the weight of discarded parts, permits up to two-thirds use of hammer head before discarding is necessary, relieves operating stress on shank bolt used for assembly, head cannot work loose and come off arm as long as the latter is on the supporting rotor pin. Maximum use of head indicated when lower end of arm is visible. Design and impact resistance of manganese steel combine to deliver long, efficient service.

**AMERICAN MANGANESE STEEL DIV., Dept. CEP, Chicago Heights, Ill.**

When inquiring specify CEP5763 — see information request blank, pgs. 2-3

## Have You a Tough Pumping Problem?



## Then get this New MOYNO PUMP BOOK!

There's no excuse, these days, to use old-fashioned pumps that hinder output with frequent breakdowns and low efficiency! Not when those problems can be practically *eliminated* by the revolutionary R & M Moyno Pump!

Get this new book and *find out* how the Moyno can help you. In eight fact-packed pages, it tells the *complete* Moyno story—compares the Moyno with other types of pumps, feature for feature. The Moyno Pump is recognized as the greatest pumping improvement in a decade, and it's rolling up *astounding* performance records in chemical plants all over the country. Because of its simple, unique pumping action, wear and resulting maintenance delays and expense are reduced to all-time lows. And because the Moyno handles heavy viscous and abrasive liquids *easily*—without cavitation or turbulence—production is increased and product quality is improved.

The entire book was written by Moyno engineers for *other* engineers who want all the details in technical, usable form. *Your* copy will be sent immediately—mail the coupon today!

### ONLY ONE MOVING PART!

Here's the patented principle of the R & M Moyno Pump's amazing performance. A single-threaded helical rotor revolves in a double-threaded helical stator, providing pumping action like that of a piston moving through a cylinder of infinite length.



*Moyno pumps are manufactured under R. Moineau patents.*

**ROBBINS & MYERS, Inc., Moyno Pump Division, Springfield, Ohio**  
(In Canada: Robbins & Myers Co. of Canada, Ltd., Brantford, Ontario)

Please send me the new 8-page book on the R & M Moyno Pump.

Name .....

Firm Name .....

Address .....

Pump will handle .....

When inquiring specify CEP5764 — see information request blank, pgs. 2-3



Consult FMC Technicians on  
CHEMICAL EQUIPMENT

at the forthcoming

NATIONAL CHEMICAL EXPOSITION

Exhibit No. 188 — Sherman Hotel, Chicago  
November 24th to 29th

THE WAR PRODUCTION BOARD  
IS IN OUR CORNER

We are proud to advise that we have been able to satisfy the needs of many firms who were referred to us by WPB. Unable to secure new equipment, FMC has furnished Guaranteed, Re-built Equipment, to keep them rolling doing War Work. Coincidentally our Booth actually is in the WPB corner at the Exposition.

FIRST MACHINERY CORPORATION

GUARANTEED EQUIPMENT FMC LIQUIDATORS APPRAISERS  
EAST 9th STREET and EAST RIVER DRIVE GR. 2-6522 C. 2-1111 NEW YORK, N. Y.

When inquiring specify CEP5765 — see information request blank, pgs. 2-3

## Stainless Steel is Scarce!

—but simple care will add years  
of life to your present equipment



SEND FOR THESE CARDS  
THEY'LL TELL YOU HOW

Care of stainless steel equipment is of utmost importance—because you probably cannot replace it today, unless you have a very high priority.

Republic's Stainless Steel Conservation Cards will tell you how to give it that care—how to extend its normally long service life by taking certain precautions in use and cleaning.

Tell us the nature of your operations and we'll gladly send you as many of these easy-to-read wall cards as you need.

REPUBLIC STEEL CORPORATION

Department CP  
Alloy Steel Division Sales Offices: Massillon, Ohio  
General Offices: Cleveland, Ohio  
Borger Manufacturing Division • Culvert Division  
Niles Steel Products Division • Steel and Tubes Division  
Union Drawn Steel Division • Truscon Steel Company  
Export Department: Chrysler Building, New York, New York



REPUBLIC

Enduro STAINLESS STEEL

When inquiring specify CEP5766 — see information request blank, pgs. 2-3

## STEPS IN THE PRODUCTION OF SYN.

New U. S. Sponsored Goodyear Plants  
Boost Synthetic Rubber Production

A MAJOR factor in the rapidly expanding synthetic rubber program, to provide for the numerous requirements of our war effort, is the group of plants of the Goodyear Tire and Rubber Co., Akron, Ohio, several now in full scale production and another nearing completion. The various steps in the production of the company's synthetic rubber known as Chemigum are shown in the accompanying photos depicting important operations in their regular sequence. The latest of these government sponsored plant additions mentioned here as nearing completion are in addition to Goodyear's privately financed Chemigum plant which started in operation in June, 1941 with an annual capacity of 2500 tons of synthetic rubber. The government sponsored additions are modeled after the pioneer plant and utilize the same processes. Prior to the erection of the original Chemigum building, however, Goodyear had been producing synthetic rubber from a small pilot plant since November, 1940. Experiments with synthetic rubber had been carried on for thirteen years before that. Construction of the first addition to the original Chemigum plant started with a \$400,000 government grant. Soon another 5,000 tons annually for this addition was authorized. Before the first addition was completed the government ordered another expansion to double the output annually and it is this project which is scheduled for completion some time in November. From three separate production line units in each addition will pour three separate streams of synthetic rubber. Each production line unit includes its own reactors, coagulators, filters and driers. Even with the present rate of synthetic rubber production all over the country, it is said at least another year will elapse before even the military needs for synthetic rubber will be met. Much of the production of these plants will go into Army and Navy tires, bullet-seal gasoline hose and tanks for airplanes, gaskets, couplings and similar items.



REMOVING INHIBITOR from butadiene used to prevent evaporation of this ingredient while awaiting use



BUFFER MATERIALS being dropped into top of reacting vat into which butadiene has already been transferred



CHEMISTS CONSTANTLY EXPERIMENTING . . . decide upon proper compounds and proportions for each operation

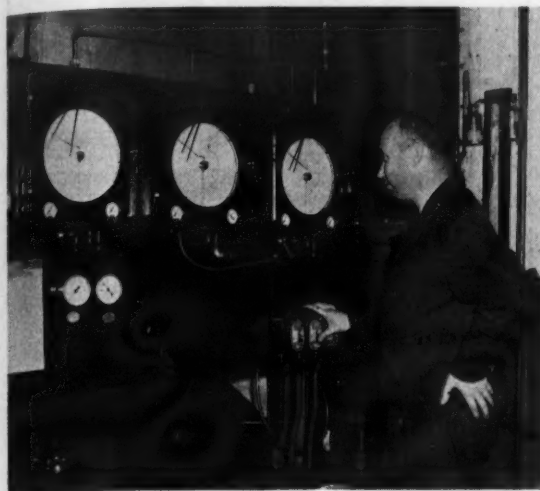


CAREFUL CONTROL is maintained over actions and amounts of additional materials delivered into reaction vat

CHEMICAL EQUIPMENT PREVIEW



## THETIC RUBBER FOR U. S. WAR NEEDS



NOTING RATES AND RESULTS of reaction in the Chemigum vat during the approximately four-hour mixing process



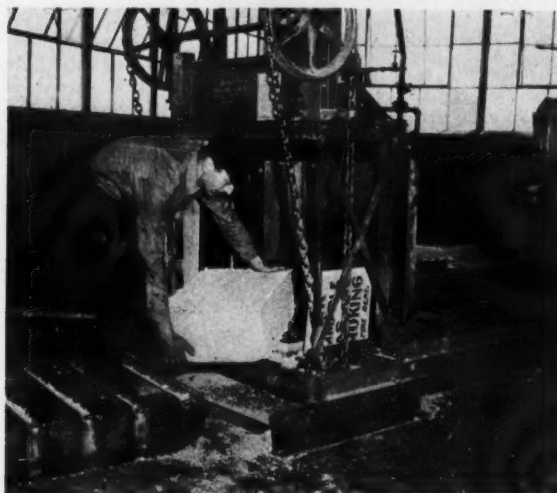
HEAVY ROLLS PRESS MIXTURE, taken from vats to remove water and other surplus liquids from embryo Chemigum



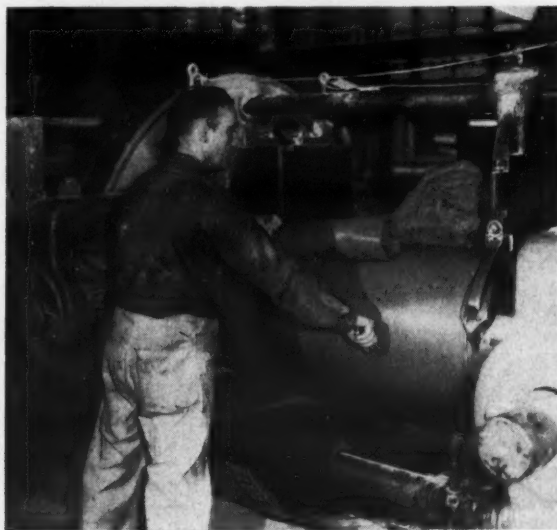
SKIM FROM THESE LIQUIDS, which retain some Chemigum is returned to rolls and again receives pressing action.



CHEMIGUM, after being pressed nearly dry by the rolls is drawn into bins, preparatory to next operation



FORMED INTO 100 LB. CAKES on presses like the above, the nearly dry Chemigum is then ready for shipment



ROLLED INTO SHEETS on conventional rubber mills, the Chemigum is ready for processing into war equipment

• If You Want

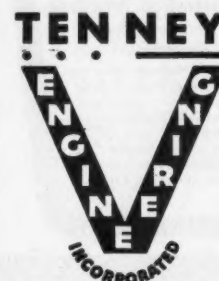
TEMPERATURE  
HUMIDITY  
PRESSURE

# CONTROL

• You Need

## TENNEY UNITS

Standard units from —40° F. to 40° F. Units built to order on specifications from —90° F. to 320° F. with variations as close as 1/10° F.



A Seal of Victory

• For illustrated booklet describing Tenneyzphere High Altitude Chambers, Constant, and Variable Temperature Baths, Temperature and Humidity Cabinets, Cyclo Tanks, and Weathering Cabinets, with specifications for many score installations, write Dept. "C".

TENNEY ENGINEERING, INC.  
8 Elm Street, Montclair, N. J.

When inquiring specify CEP5767 — see information request blank, pgs. 2-3

**Have you ever  
considered the  
possibility of  
using  
LIQUID SCREENS?**

Before investing in new filters, centrifuges, evaporators or settling tanks, investigate the possibility of using Liquid Screens . . . ROBINS Liquid Screens. They are able to perform several operations now being handled by more expensive equipment—principally in the field of separating solids from liquids. Full facts including flow sheets are available in Bulletin No. 123C. A copy will be sent on request.

**ROBINS**  
CONVEYING BELT COMPANY  
PASSAIC • N. J.

FOR MATERIAL AID IN MATERIALS HANDLING . . . **It's ROBINS**

When inquiring specify CEP5768 — see information request blank, pgs. 2-3



**Only 4  
PARTS!**



**Tighter Seating  
Less Wear  
Longer Operation  
Lower Maintenance**

The seats are parallel. The discs are fully revolving, seating in a different position each time the valve is operated. You get tighter seating, less wear, longer operation and lower maintenance costs with Darling Gate Valves. Any part can be replaced quickly and inexpensively without removing the valve from the line.

*Wire or write for full information*

Darling Gate Valves come in Fully Revolving Parallel Seat Double Disc, also in Taper Seat — Slotted and Solid Wedge types. In service pressures up to 3000 pounds they are available in Cast Iron, Bronze, Forged Steel, Cast Steel and Corrosion Resistant Alloys.

Two discs and two wedges — the entire working part assembly of a Darling Double Disc Gate Valve.



**DARLING VALVE & MANUFACTURING CO.**  
WILLIAMSPORT, PA.

When inquiring specify CEP5700 — see information request blank, pgs. 2-3



**IT'S A  
GROEN  
MIXER TYPE  
KETTLE**

**WITH FULLY ENCLOSED WORKING PARTS**

Single or double-motion motor-driven agitators. Motors and gear reducers mounted on steel channel across top of kettle, and fully enclosed for positive sanitation. Kettle interior of Stainless Steel. Exterior of Stainless-clad steel. Used by country's most prominent plants whose products are of a quality requiring strictest safe-guarding. GROEN Kettles do it dependably. Write us on Priority-covered requirements.

**WRITE FOR  
OUR NEW  
KETTLE  
CATALOG**

**GROEN MFG. CO.** (HALF A CENTURY OF FINE KETTLES)  
4537 West Armitage Avenue, CHICAGO, ILLINOIS

When inquiring specify CEP5770 — see information request blank, pgs. 2-3

## PRODUCTION

### Adjustable Hard Wood Shelving

*Made in both open and closed types and in a selection of several sizes*



WOOD SHELVING . . . adapted to wide variety of requirements

**Description** — Made in both open and closed types. Dividers, bin fronts, adjustable shelves and shelf boxes. Top, base, shelves, arms and uprights are made of solid hard wood. Side panels and back panels on closed type are 1/4 in. plywood. Sections are 36 inches wide and furnished in either 84 or 96 in. heights and in 12, 18 or 24 in. depths. Complete specifications are given in illustrated Bulletin No. 1705.

LYON METAL PRODUCTS, INC., Dept. CEP, 3028 Clark St., Aurora, Ill.

When inquiring specify CEP5771 — see information request blank, pgs. 2-3

### Floor Type 10 In. Turret Lathe for Chucking, Bar, Second Operations

*Has both a compound rest cross slide and a hand lever cross slide which are interchangeable*



TURRET LATHE . . . has 10 in. swing over bed or saddle wings

3/8 in. hole through the head lock spindle and a one inch

**Uses** — As a replacement for steel shelving in the numerous applications required in practically all industrial and war production plants.

**Features** — Saves vital metal and meets service requirements as demanded in previous metal equipment used. Green finish is preservative, reducing moisture absorption and harmonizing with standard green of most present shelving. Easy to set up. Saves floor space.

**Uses** — This new floor type turret lathe is designed for rapid production to close tolerances of small chucking or bar work. Second operation work can also be handled efficiently.

**Features** — Tooling for special work or second operation jobs is simplified by a large assortment of attachments and accessories.

**Description** — This lathe has a 10 in. swing over the bed or saddle wings, 1

## PROVED SUPERIOR TO RUBBER

**for Protection against  
Organic Solvents . . .**

## RESISTOFLEX

**GLOVES • APRONS • SLEEVES**

Workers handling grease, oil, and all commonly used organic solvents can now get certain protection for their persons and their clothing. Resistoflex gloves and sleeves offer a sure method for preventing dermatitis and folliculitis, and are widely used in inspection, degreasing departments.

Resistoflex work aprons are entirely unaffected by organic solvents. That's why Resistoflex is superseding rubber for protection in these applications, not only because of the rubber shortage, but also because of Resistoflex's proved superiority.



**Address All Inquiries to:**

**DAVIS EMERGENCY EQUIPMENT CO.**  
56 Halleck Street • Newark, N. J.

When inquiring specify CEP5772 — see information request blank, pgs. 2-3

## ACCURATE CONTROL

**with the  
DAVIS No. 13  
PRESSURE  
REGULATOR**

**Built-in Strainer • Single Seat  
No Leakage • No Sticking  
Self-Contained**



**HERE** is everything you need for good pressure regulation on small steam, air, or gas-operated equipment: Quality construction, accurate control, trouble-free service, low maintenance — And yet the Davis No. 13 Pressure Regulator is priced low enough to be practical for individual installations on unit heaters, presses, jacketed kettles, sterilizers, vulcanizers and other small equipment.

Sizes from 3/8" to 2" in bronze, semi-steel, and steel bodies; bronze, monel, or nitralloy trim. All parts accessible and renewable without disturbing pipe connections. DAVIS REGULATOR COMPANY, 2562 South Washtenaw Avenue, Chicago, Illinois.

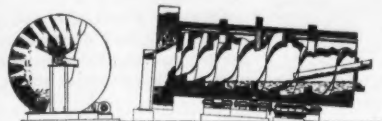
*Write today for your copy of the Davis  
Pressure Regulator Service Chart*



When inquiring specify CEP5773 — see information request blank, pgs. 2-3



**For  
Classifying, Sizing  
Or Counter-Current Washing  
Use The  
Hardinge Counter-Current  
Classifier**



A slowly revolving drum with no internal moving parts. — Low maintenance.

Booth 82 at the  
Chemical Show

**HARDINGE**  
COMPANY, INCORPORATED — YORK, PENNSYLVANIA  
NEW YORK, CHICAGO, SAN FRANCISCO, TORONTO

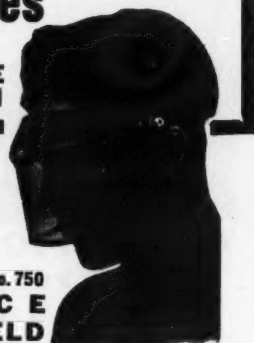
When inquiring specify CEP5774 — see information request blank, pgs. 2-3

**STOP Liquid Splashes-Sparks  
Flying Particles**

with this

**2-WAY DEFENSE  
PROGRAM**

★ There is no "give" in this Cesco No. 750 General Utility Face Shield, which accounts for its ability to "take" and shunt off splashes, sparks and flying particles in the chemical process and metal fabricating industries. Extremely light in weight, with entire window metal bound for added strength and rigidity.



**CESCO No. 750  
FACE  
SHIELD**

enables its wearer to proceed aggressively, confident of working with the utmost in face and eye protection and comfort.

**New Cesco No. 94 RESPIRATOR**

Here is a respirator that FITS better, offers more COMFORT to the wearer! Carries a new Approval by the U. S. Bureau of Mines (No. BM-2142) for protection against Type A (Silica) — Lead and Nuisance Dusts. Unusually large filtering area (40 sq. in.) promotes easier breathing. New Exhale Valve with speaking diaphragm permits a normal exchange of conversation. Function with a high degree of efficiency against all common dusts, making it unnecessary to change filters under average working conditions. Get special circular today. Write.



Cesco No. 94 Respirator

**CHICAGO EYE SHIELD CO.** 2337 Warren Blvd.  
Chicago • Illinois

When inquiring specify CEP5775 — see information request blank, pgs. 2-3

**PRODUCTION**

collet capacity. This lathe is equipped with both a compound rest cross slide and a hand lever cross slide which are interchangeable.



**SMALL CHUCKING AND BAR  
WORK** . . . quickly turned out by new  
floor type lathe

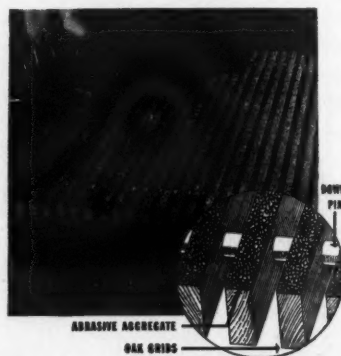
The latter is furnished with front and rear tool blocks which provide positions for three tools. A quick change gear box supplies 48 longitudinal power feeds for the universal carriage, 48 power cross feeds for the compound rest cross slide and 48 thread cutting feeds, 4 to 224 per inch. Handlever operated bed turret indexes automatically and has an adjustable stop for each of the six turret tool positions. The underneath motor drive and back gears deliver twelve spindle speeds from 50 to 1357 RPM. Lathe available either with or without coolant equipment.

**SOUTH BEND LATHE WORKS**, Dept. 9Y, South Bend, Ind.

When inquiring specify CEP5776 — see information request blank, pgs. 2-3

**Non-Slip Oak Grids for Floors  
Exposed to Water and Oils**

*Aggregate and bonding composition selected for  
resistance to solvents and temperatures*



**NON-SLIP GRID** . . . oak grid pieces  
with bonded medium aggregate

*Uses* — Designed to eliminate hazardous conditions under foot in places where excessive water, oils or other liquids make floor surfaces slippery and unsafe.

*Features* — The abrasive aggregate and the bonding composition employed are described as not affected by alcohol, gasoline or creosote, S.A.E. 10 oil or other commonly

used solvents or temperatures ranging from 55 degrees below zero to 300 degrees above zero Fahrenheit.

*Description* — Made of oak, the non-slip feature of the grid is obtained by bonding medium grain abrasive aggregate (alundum abrasive aggregate) to the walking surfaces of the grid pieces. A composition known as "Valim" is used to bond the aggregate to the surface of the grids. The grid has a total thickness or height from the floor of 1 3/4 inches. The product is assembled in various standard sizes. Maximum obtainable size is 4 ft. x 8 ft. Known under name "ORCO-GRID."

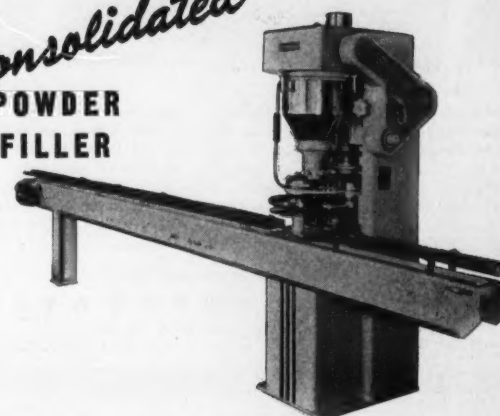
**OHIO RUBBER CO.**, Dept. CEP, Ben Hur Ave., Willoughby, Ohio.

When inquiring specify CEP5777 — see information request blank, pgs. 2-3

**BUILT TO STAND  
UP UNDER THE  
STRAIN OF WAR  
TIME PRODUCTION**

*Consolidated*

**POWDER  
FILLER**



★ This modern, stream-lined Powder Filler has that built-in stamina characteristic of Consolidated equipment. It is designed for handling any non-free-flowing material, either powdered or pulverized.

Screw auger carries and accurately measures materials into containers.

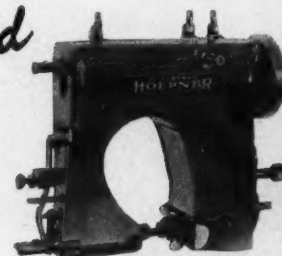
The filling operation is practically dust-free.

The Unit handles containers of from 1 to 40 oz. capacity, and fills them at speeds of 20 to 50 a minute depending on the size of the container.

This Consolidated Powder Filler is fast, clean and dependable.

*Consolidated*

**HEAVY DUTY  
SEWING HEAD**



★ The Model 100 Sewing Head provides an unusual combination of speed, stamina and all 'round performance. Over-size bearings, positive lubrication and simplified design at essential points assure uninterrupted service under the most severe conditions. Recommended for all but the heaviest types of textile bags.

**CONSOLIDATED**  
PACKAGING MACHINERY CORP.  
1400 West Ave. Buffalo, N. Y.

When inquiring specify CEP5778 — see information request blank, pgs. 2-3



## Control *Dust* in SMALL or LARGE QUANTITIES with DRACCO DUST CONTROL



Write for Bulletin No. 302

We all know that Dust in volume is dangerous and destructive, but many don't realize that Dust in small amounts is also dangerous and destructive. It will pay to eliminate any Dust hazard, because even in small quantities it gets into equipment and reduces its life and increases repair costs. DRACCO Dust Control can be applied where one or more machines or operations are involved or an entire plant. REMEMBER — Dust ALWAYS COSTS money and DRACCO Dust Control ALWAYS SAVES money.

Write for Bulletin 302

**DRACCO CORPORATION**

Successors to The Dust Recovering & Conveying Co.  
4060 East 116th Street, Cleveland, Ohio New York Office: 130 West 42nd Street

**PNEUMATIC CONVEYORS • DUST COLLECTORS**

When inquiring specify CEP5779 — see information request blank, pgs. 2-3

## PACKING HOUSE WASTE YIELDS BY-PRODUCTS



● 500 to 900 gallons per minute of wash water from killing floors in the plant of The Rath Packing Co., are passed over this Link-Belt liquid vibrating screen (one of three in operation), keeping solids out of pipes and making these solids available for grease. Another example of many, where waste is turned to profit... loads on the sewage plants are reduced... drains kept open... by Link-Belt screens. Can you turn waste to profit, by a screening operation? Send for Folder No. 1877.

**LINK-BELT COMPANY**  
2045 W. Hunting Park Ave., Philadelphia, Pa.  
Offices, warehouses and distributors in principal cities

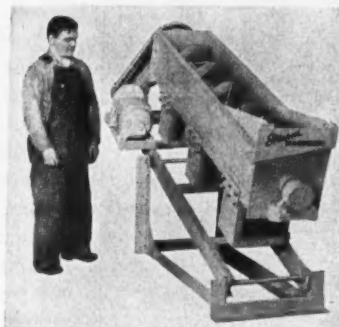
**LINK-BELT Vibrating SCREENS**

When inquiring specify CEP5780 — see information request blank, pgs. 2-3

## PRODUCTION

### Magnetic Log Washer Treats Fine Abrasive and Similar Materials

*Great flexibility in adjusting magnetic fields to type of material being treated*



MAGNETIC LOG WASHER... treats fine abrasive in wet state

**Description** — The log washer consists of a single ribbon type screw conveyor operating at 30 to 32 RPM on a slope with adjustable frame supports over the magnetic field and driven by a gear reduction motor through well guarded variable pitch V belts and sheave. Material to be treated is fed into the washer trough. Tailings are discharged at the lower end and the concentrates at the top. Washers can be made in various sizes, depending on capacities. Illustrated washer is a 12 inch by 72 inch size and particularly adapted to laboratory use. The dimensions of this unit are 7½ ft. overall, 25 inches wide with a maximum width of 44 inches and 4½ feet high. Operate from direct current up to 300 volts or from motor generator sets where direct current is not available.

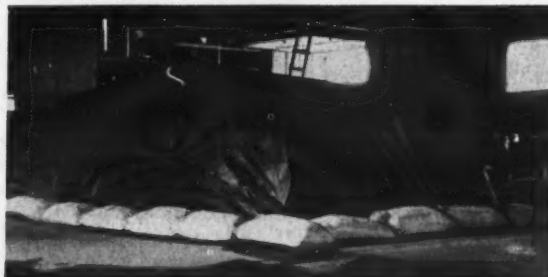
STEARNS MAGNETIC MFG. CO., Dept. CEP, 642 So. 28th St., Milwaukee, Wis.

When inquiring specify CEP5781 — see information request blank, pgs. 2-3

### Fumigate Stock Piles on Spot by Use of Plastic Coated Tarpaulin

*Material is impervious to Methyl Bromide which fumigates at cost of 15c per ton*

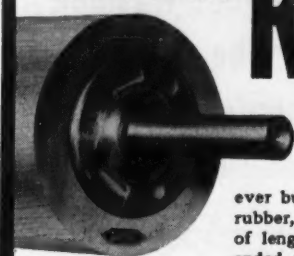
**Uses**—For use by various processing plants, including grain millers, food processors, also warehouses and others in fumigating insect-infested material not located conveniently to adequate fumigating facilities. Also a highly



TARPAULIN FUMIGATION... eliminates waste space saves time and labor

## SUPER-STRONG ROLLS

WOOD - METAL  
RUBBER - PLASTIC



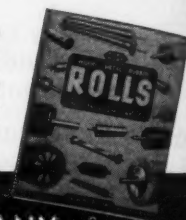
No. 251

Patented "SHAF-TITE" Roll

Exclusive patented features make Rodney Hunt Rolls the strongest and lowest cost rolls ever built. Made of wood, metal, rubber, or plastic in a wide range of lengths and diameters. Have ended roll troubles and cut roll costs in hundreds of plants.

### Write for Catalog

Our new Roll Catalog No. 740 illustrates and describes a wide range of wood, metal and rubber rolls. Also wood and stainless steel reels, showing many patented features.



**RODNEY HUNT MACHINE COMPANY**

273 Maple Street - Orange, Mass., U.S.A.

When inquiring specify CEP5782 — see information request blank, pgs. 2-3



### There's "FIGHTING PUNCH" in Every POUND of Your SCRAP METAL!

Turn it in NOW... when it is so sorely needed to—

"Keep 'Em Rolling"  
"Keep 'Em Flying"  
"Keep 'Em Winning"

Without your scrap and all that others can supply, the Steel Mills of America cannot operate at VICTORY Capacity.

"Throw your Scrap into the Fight"

Solid Stainless Scrap is Especially Needed

**INGERSOLL STEEL & DISC DIVISION**

BORG-WARNER CORPORATION  
310 South Michigan Avenue, Chicago, Illinois  
Plants: Chicago, Ill.; New Castle, Ind.; Kalamazoo, Mich.

*"A Borg-Warner Product"*  
**INGACIAD**  
STAINLESS-CLAD STEEL  
AND INGERSOLL SOLID STAINLESS STEEL

When inquiring specify CEP5783 — see information request blank, pgs. 2-3



## PRODUCTION

effective method for eliminating infestation from used bags. A solution of fumigating problem for those who do not have vaults.

**Features**—Eliminates moving material into vault. Size of space fumigated automatically adjusted to space actually occupied by the material to be treated. Tarpaulin is light weight, 30' by 30' size only 56 lbs. Flexible and resists fire and oxidization. Methyl Bromide, fumigant employed has exceptional penetrative qualities.

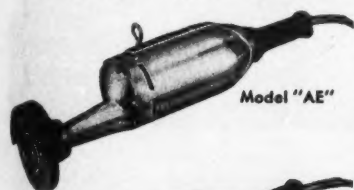
**Description**—Light duck fabric, heavily coated on one side with Ethocel, ethylcellulose, a plastic material impervious to Methyl Bromide, highly efficient for fumigating seed, grain, flour or milled feed and other materials. Fumigation may be performed anywhere there is a concrete floor or other air tight surface on which to stack the material. After material stack is covered with tarpaulin, edges are sealed by laying material bags around it. Tubing is run to the pile from a Methyl Bromide cylinder. From 15 to 18 tons may be fumigated at one time and with the larger tarpaulin, 40' by 40' even more. The penetrating power of Methyl Bromide is said to be capable of thoroughly fumigating the largest grain bags. Actual cost of this fumigating material has been shown to run as low as 15¢ per ton fumigated. A Halide leak detector torch may be used to determine the speed of aeration after tarpaulin is removed so that a standard elapsed time may be established before workmen are allowed to remove the fumigated material.

DOW CHEMICAL CO., Dept. CEP, Midland, Mich.

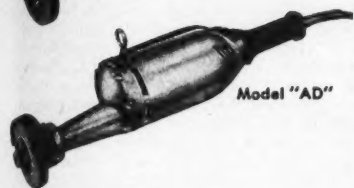
When inquiring specify CEP5784 — see information request blank, pgs. 2-3

## Portable 4 & 5 In. Grinding Wheels

For high speed grinding, brushing and polishing



Model "AE"



Model "AD"

GRINDING WHEELS . . commutator and switch fully inclosed against dust

**Uses** — Especially designed to meet high speed requirements on grinding, wire brushing, polishing and buffing operations.

**Features** — Commutator and switch fully inclosed for protection against dust. Straight line ventilation blows dirt away from operator and prevents clogging. Rubber handle for cool, non-slip grip.

**Description** — Offered in two models — 4 and 5 inches. Ball bearings mounted in steel inserts on armature and extreme ends of wheel spindle absorb thrust, eliminate vibration and give cool operation. Gears designed for quiet operation are made of fine steel, heat treated for long life and spline mounted on shafts. Universal motor. Model AD (4 in.) is 22 inches long, weighs 15 pounds, operates at no load speed of 4500-RPM. Grinding wheel is 4x3/4x1/2 inches. Model AE (5 in.) is 22 3/8 inches long, weighs 18 pounds and operates at 4200-RPM. Wheel is 5x3/4x1/2 inches.

SKILSAW, INC., Dept. CEP, 5033 No. Elston, Ave., Chicago, Ill.

When inquiring specify CEP5785 — see information request blank, pgs. 2-3

# How to have your **RIGID** Pipe Tools Factory Reconditioned...Promptly...*Without Priorities*

## New Service through Your Jobber on Re-Newing Your **RIGID** Wrench Jaws and Chaser Dies ... at a Big Saving to You

**YOU** can help meet your tool shortage by using this new service to keep all your **RIGID** Pipe Tools on the job. Simply collect all your old worn **RIGID** Wrench Jaws and Chaser Dies and turn them over to your Supply House with order for this Reconditioning Service. Your Jobber ships them to us with parts

from other customers, to save shipping expense, for we allow one-way freight to Jobber on 100 pound lots or more. Remember: only **RIGID** trade-marked parts accepted for this service. No priorities needed. Service is prompt. • Parts you send us are carefully inspected, to make sure they're worth reconditioning. We reserve the right to reject them if they can't be made as good as new.



Your **RIGID** dies  
Factory Reconditioned  
**44¢ PER SET**  
OF 4  
Plus small shipping charge

### Quick Reconditioning of **RIGID** Chaser Dies

Threader dies are accurately re-ground to original specifications. They are then inspected and tested and sent back to you under **RIGID** new parts guarantee.



Dies for **RIGID** No. 65R Series

Dies for **RIGID** No. 1R Series

Dies for  
**RIGID**  
No. 00R, 0R,  
11R and 3-way  
Series

### Quick Reconditioning of Your **RIGID** Wrench Jaws

Both hook and heel jaws are scientifically annealed in our automatic electric furnaces, same as new jaws. . . They are recut in the same machines and by exactly the same methods as used for new jaws. . . Jaws are then re-hardened like new. . . After final inspection, they are returned to you under regular **RIGID** new parts guarantee of satisfaction.



**RIGID**  
Wrench Heeljaw  
with pin



**RIGID**  
Wrench  
Hookjaw

Your **RIGID** wrench jaws  
Factory Reconditioned  
**1/2 PRICE**  
OF NEW PARTS  
Plus small shipping charge

Every tool is needed these critical days. Gather up your worn parts now and call your Jobber. This service is available only in the United States.

All **RIGID** Pipe Tools are  
sold through Supply Houses

★ **RIGID** ★

THE RIDGE TOOL COMPANY  
ELYRIA, OHIO, U.S.A.

Pipe Wrenches, Cutters, Threaders, Vises

**Work-Saver Tools for America's Big Job in 1942**

When inquiring specify CEP5786 . . . see information request blank, pgs. 2-3



It Pays You to "Keep 'Em Working", Too



No Acid-Crippled  
Work Hands if  
they wear  
**Stanzois**  
of DuPont  
NEOPRENE

Casualties on the production front also hold back the Victory. Keep the hands of your men and women employees safe and busy—protect them from oil, acid and caustic injury with these Stanzois of neoprene that resist damage from such materials. Stanzois often last 3 to 7 times longer than rubber gloves, saving expense. Made in 6 sizes and weights, black and white, to meet all needs. Keep hands at work, avoid costly liability claims—ask your Jobber for Stanzois or write us for current delivery data.

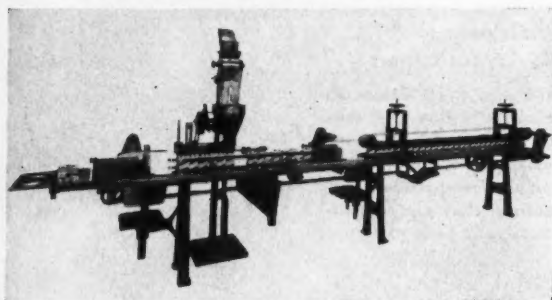


Synthetic Rubber Division  
**THE PIONEER RUBBER COMPANY**  
Over 20 Years of Quality Glove Making  
239 Tiffin Road, Willard, Ohio, U.S.A.  
New York • Los Angeles

MADE WITH DU PONT NEOPRENE

When Inquiring specify CEP5787 — see information request blank, pgs. 2-3

## NO SHORTAGE OF CARTONS!



## See TRIANGLE for Carton Sealers

**H**UNDREDS of plants that have adopted cartons for packaging all types of dry materials are doing the job better and faster with Triangle Carton Sealers. Automatic and semi-automatic models made in a wide range of styles to save time, labor and critical materials on all types of jobs.

"VICTORY" MODELS

AVAILABLE WITHOUT PRIORITIES!

While they last, there are a few Triangle "Victory" model carton sealers available without priority. Write for full details.

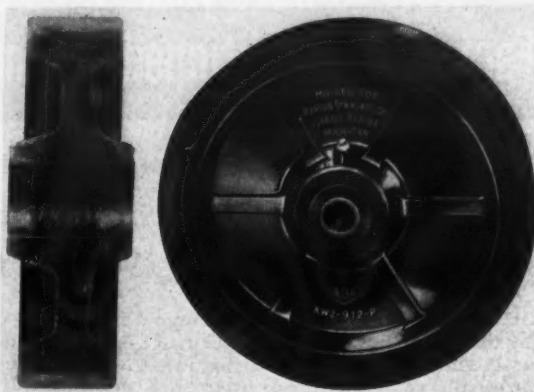
**TRIANGLE PACKAGE MACHINERY CO.**

917 NO. SPAULDING AVENUE, CHICAGO

BRANCHES IN PRINCIPAL CENTERS

When Inquiring specify CEP5788 — see information request blank, pgs. 2-3

## PRODUCTION



INDUSTRIAL WHEEL . . has laminated tread stock . . resilient core . . resists oils, greases

## Impact Resistant Industrial Wheel

*Free rolling cushion like action, will not strike sparks, protects floors, prevents chipping*

**Uses** — As an all purpose wheel for industry for a wide variety of truck and castor applications to provide service embodying great resistance to wear and impact is required. **Features** — Designed to prevent abnormal floor wear and chipping. Resist oils, greases, organic acids and temperature changes. Laminated structure reduces chipping of tread to minimum.

**Description** — These "ABK Resinoid Wheels" are composed of two component parts that are moulded under high heat and pressure into one strong unit. The core stock is compounded for resiliency and shock absorbing qualities to make wheels highly resistant to impact. Designed to simulate action of cushion type wheels without sacrificing rolling efficiency. Made in a variety of sizes.

Bulletin 53-B1 containing illustrations, descriptions and construction details is available upon request.

RAPIDS STANDARDS CO., Dept. CEP, 535 Bond Ave., N. W. Grand Rapids, Mich.

When Inquiring specify CEP5789 — see information request blank, pgs. 2-3

## Blackout Lamp Designed To Meet War Department Requirements

*For supplying sufficient illumination for ease of movement during blackouts*

**Uses** — This blackout lamp is designed to provide a quick, easy and economical method of supplying sufficient illumination for ease of movement during blackouts.

**Description** — These lamps are now manufactured with the approval of the War Department Engineering Board. They must be used in accordance with the instructions established by the War Department, which are imprinted on a small wrapper accompanying each lamp. In this connection they may be used: (1) In any one room, only one unit is permitted to each two hundred square feet of floor area of fraction thereof. (2) Units shall be spaced not less than ten feet apart in any direction. (3) In corridors, one row of units is permitted at a spacing of not less than fifteen feet. (4) Units shall be placed at least three feet from any window, exterior door or other opening. (5) When openings are covered in the usual manner with drawn win-

*No time for  
Trial and Error!*



# DURAMETALLIC

**THERE'S A WAR TO BE WON!** Pump room performance is important! This is no time to handicap the efficiency of your pumps with make-shift packing . . . specify DURAMETALLIC twisted, flexible metallic packing and be assured of long runs, better sealing and friction-free service.

Write today for specific information

on the right type of packing for your needs



**DURAMETALLIC CORPORATION**

KALAMAZOO MICHIGAN

When Inquiring specify CEP5790 — see information request blank, pgs. 2-3

**Removes 99% plus  
of water, dirt and oil  
from compressed air**

**T**HE unusual efficiency of the Johnson-Gast Separator arises from the fact that it combines, in one simple device, the two most effective principles of separation—expansion and change of direction. As the air enters it is allowed to expand, precipitating most of the moisture. Then it passes through the "thousand baffles"—a labyrinth of coarse wire mesh—changing direction of flow many times and surrendering particles of water and dirt at every turn.

In all Johnson-Gast Separating Devices you'll find this same combination of simple design and high efficiency. The After-cooler is frequently installed ahead of the separator to condense all moisture vaporized by heat of the compressor. A typical installation is pictured here. The Oil Absorber is used for services where every final trace of oil must be removed, as in paint spraying.

Write for new bulletin

**THE JOHNSON CORPORATION**  
826 Wood Street, Three Rivers, Michigan

**JOHNSON-GAST**  
SEPARATORS • AFTERCOOLERS • OIL ABSORBERS

When Inquiring specify CEP5791 — see information request blank, pgs. 2-3



## They Don't Gum Up

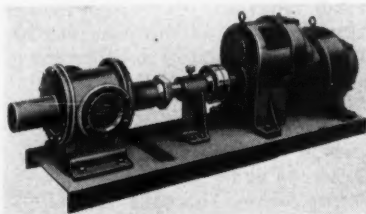
### BEACH-RUSS Rotary LIQUID PUMPS

No Lubrication  
No Agitation  
Easy to Clean  
Slow Speed  
Corrosion Resistant  
For Any Temperature

for  
Thick Fluids  
Corrosives  
Plastics  
Glue & Sizes  
Oils & Grease  
Paints & Varnish  
Printing Inks  
Chemical

Type "CP" Pumps have but two working parts, with interior constructed of suitable corrosion resistant metals. They operate at slow speed, are positive in action, have high suction lift and minimum turbulence, agitation or aeration. They can do your pumping job better. Bulletin No. 63 tells why.

**BEACH-RUSS COMPANY**  
40 CHURCH ST. NEW YORK, N. Y.



Capacities —

from 4 to 440

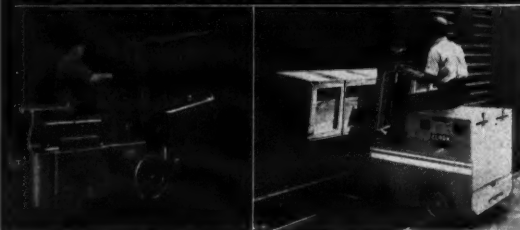
G.P.M.

Any drive;  
stationary or  
portable

Plain or jacketed  
cylinder

When inquiring specify CEP5792 — see information request blank, pgs. 2-3

## BY THE DAWNS EARLY LIGHT CLARK FORK TRUCKS Are Moving Materials of War



**GAS OR BATTERY POWERED**

Overseas, and on the home front, Clark fast material handlers are moving supplies for our fighting men.

Stepped up production is necessary for victory — Clark Fork Trucks speed the movement of materials.

### CLARK TRUCTRACTOR

DIVISION OF CLARK EQUIPMENT COMPANY  
BATTLE CREEK, MICHIGAN, U.S.A.

When inquiring specify CEP5793 — see information request blank, pgs. 2-3

## PRODUCTION



BLACKOUT LAMP . . supplies restricted light

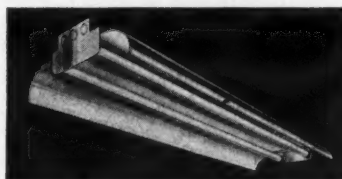
dow shades, drapes, blinds or even with one thickness of newspaper, or whenever each unit has a shade which screens the unit from outside observation above the horizontal, units may be installed at any height. (6) When exterior openings are not covered, and when units are not otherwise shaded from observation above the horizontal, blackout units shall be located above the top of such openings. The lamp is an A-15 type bulb, coated black except for a one inch aperture in the bulb end which emits an orange-red light. Having a 14 watt filament, this blackout lamp is available in two voltage ranges: 115-125 volts and 30-44 volts. It is marked "Indoor Blackout — War Dept. Standard 12542." At present this lamp is available only on a priority rating better than A-2.

**SYLVANIA ELECTRIC PRODUCTS INC.,** Lighting Div., CEP, Salem, Mass.

When inquiring specify CEP5794 — see information request blank, pgs. 2-3

## Pressed Wood Reflector Unit

*Replaces metal fluorescent type, easily attached*



FLUORESCENT REFLECTOR . .  
made of pressed wood

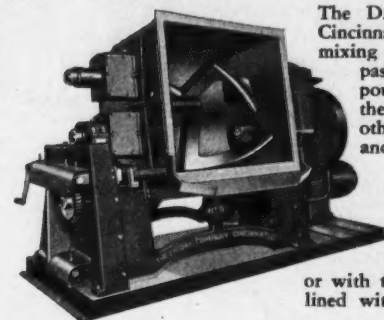
has the feature of light weight, readily takes manufacturer's special white finish. Accessory housing is of steel and has "side of channel" switches for easy trouble shooting and "bump-proof" end plates which extend behind lampholders for protection of these parts during transit, installation and servicing. Reflectors can be attached to conduit or to chain hanger. When jack-chain is used for hanging, same is attached direct to channel, no angles or extra-parts needed. Introduced under name of "Maze-lite."

**EDWARD F. GUTH CO.,** Dept. CEP, 2615 Washington Blvd., St. Louis, Mo.

When inquiring specify CEP5795 — see information request blank, pgs. 2-3

# DAY-----

## CINCINNATUS MIXER



The DAY Heavy Duty Cincinnati Mixer for mixing of storage battery pastes, rubber compounds, clays, synthetic resins, and for other heavy pastes and plastics, and can be furnished in working capacities from 5 to 775 gallons; with or without jacketed tanks; or with tanks made of, or lined with special metals.

## PONY MIXER (Gearless Type)

The DAY Balanced Top, Pony Mixer (Gearless Type) for printing inks, paint pigments and other light pastes. The vertical blades revolve while the can rotates in the opposite direction, bringing all parts of the mass under the action of the mixing blades.

Stationary scraper blades keep material from accumulating on sides of can.

The top casting is balanced with counter-weights enabling the agitator to be easily tilted. Both the agitator and the can are driven by heavy roller chains. It is built in five sizes having capacities of 40, 50, 75, 100 and 125 gallons.



## RO-BALL "Stabilized" GYRATING SCREENS

The DAY Ro-Ball "stabilized" Gyrating Screens are built in 14 sizes, providing maximum screening capacity per square foot screen area.



Makes a clean accurate separation of the most difficult material. The DAY Super-Active Ball Cleaning Device insures a clean and open mesh at all times, with from two to five separations.

**THE J.H. DAY COMPANY.....**  
**CINCINNATI-Ohio**

When inquiring specify CEP5796 — see information request blank, pgs. 2-3



# MERCER

"THE NAME THAT CARRIES WEIGHT"

## Industrial MATERIAL HANDLING EQUIPMENT

Lift & Trailer Trucks  
Carts & Tool Wagons  
Belt Conveyors  
Elevators  
Wheel Tractor Cranes  
that lift and carry  
3, 5 or 7 ton loads



Shown here are groups of Mercer units now in the field. Some are standard Mercer equipment—others are specially engineered—all are planned to best handle heavy jobs. So—if you've a handling problem—call on Mercer for a lift!

**MERCER ENGINEERING WORKS, INC.**  
Sales Office: 30 CHURCH STREET, NEW YORK  
Workshop: CLIFTON (ALLWOOD), N.J.  
Export Office: 80 Broad St., New York

When inquiring specify CEP5797 — see information request blank, pgs. 2-3

# Rating TOP HONORS

## PARSONS OVAL BAG Dust Arrestors

In Parsons Oval Bag Dust Arrestors you find exclusive engineering features that have earned their stripes on sheer performance and efficiency in every-day use under all kinds of conditions.

- Patented Oval filtering bags
- Non-rusting arrestor case
- Simple torque drive
- Heavy duty welded hoppers

These are just a few of the many exclusive features that go to make Parsons Oval Bag Dust Arrestors the talk of the trade.

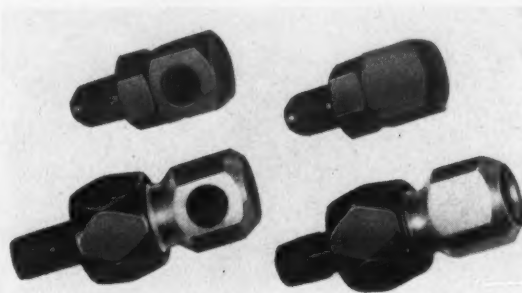
Send for free booklet on "Mastery Of The Air."



**PARSONS ENGINEERING CORP.**  
CLEVELAND, OHIO

When inquiring specify CEP5798 — see information request blank, pgs. 2-3

## EQUIPMENT FOR PRODUCTION



SWIVELS . . in ball bearing and light duty types for oil, grease, air line connections

### Straight & Angle Swivels For Air, Grease And Oil Line Connections

*In standard ball bearing and light duty types*

**Uses** — These straight and 90 degree angle swivels are used in making oil, grease, air and other line connections between stationary, revolving, oscillating or other moving surfaces.

**Description** — Furnished in standard ball bearing and light duty construction. Standard ball bearing swivels are designed to turn freely without binding. Stems and nuts in which the balls turn are hardened to minimize wear. Light duty swivels are built without balls and are for use in lighter work, where space limitation does not permit the use of ball bearing swivels. Both standard ball bearing and light duty swivels are furnished regularly with right hand threads in both head and stem. Swivels with left hand threads in either the head or the stem or both and swivels built from special materials to handle corrosives can be furnished to order. Standard ball bearing swivels are available in 1/8, 1/4, 3/8, 1/2, 3/4 and 1 inch pipe sizes. Light duty swivels furnished only in 1/8 and 1/4 inch pipe sizes. Descriptive bulletin available upon request.

TRABON ENGINEERING CORP., Dept. CEP, 1814 East 40th St., Cleveland, Ohio

When inquiring specify CEP5799 — see information request blank, pgs. 2-3

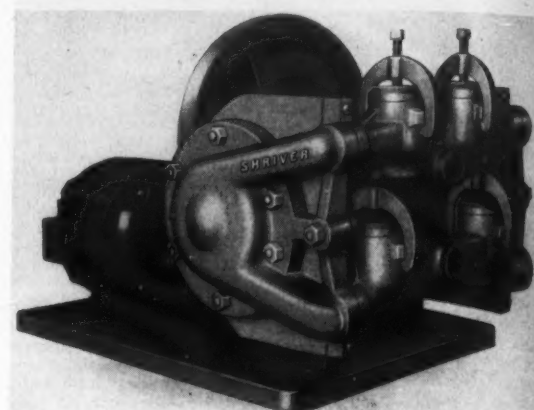
### Diaphragm Pump For Suspensions Containing Quick Settling Solids

*Rubber diaphragms separate working mechanism from liquid heads*

**Uses** — Design of this pump makes it particularly adaptable to handling slurries or suspensions which contain a high percentage of crystalline or quick settling solids which may be corrosive, abrasive, heavy, delicate, valuable or hazardous.

**Features** — Interchangeability of valve manifolds permits pump to be fed from the bottom and discharged at top if desired.

**Operation** — Material is fed into the upper manifold through the ball valves and into the heads at each end of the pump in a clean sweeping motion, thereby assuring that with each forward impulse of the diaphragm covered



DIAPHRAGM PUMP . . for slurries or suspensions which contain quick settling solids

piston, the material is forced out through the lower pair of ball valves and out through the lower manifold. This does not permit settling or accumulation of solids in the pump heads. Positive displacement of the material is effected by means of the double acting pistons which are always immersed in a bath of lubricating oil. Since the working mechanism is entirely separated from the liquid heads by rubber diaphragms, there can be no effect on the mechanism by the material.

**Description** — The only parts of the pump which need be made of a particular metal or of rubber covered metal are the liquid heads, ball valves and manifolding. Pump is made in a complete range of capacities from 1 to 100 GPM and for delivery pressures up to 100 psi and a suction lift as high as 18 ft. Any type of motor drive may be applied.

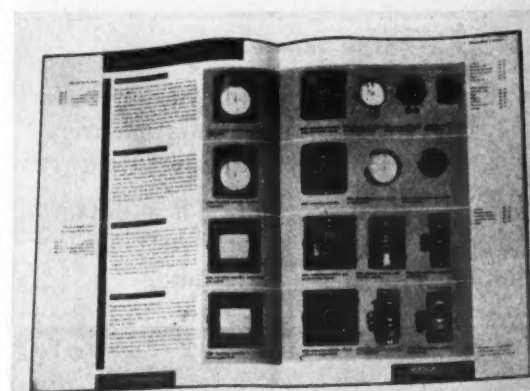
T. SHRIVER & CO., Dept. CEP, Harrison, N. J.

When inquiring specify CEP5800 — see information request blank, pgs. 2-3

### New Catalog Simplifies Choice of Measuring-Control Instruments

*Contains 48 pages and is cross-indexed; over 200 illustrations of instruments, accessories*

**Uses** — Provides complete and highly detailed information on a full line of instruments for the measurement and control of industrial process conditions to aid in making



INDUSTRIAL INSTRUMENT CATALOG . . contains over 200 illustrations . . arranged for quick reference

CHEMICAL EQUIPMENT PREVIEW



## PRODUCTION

selection of equipment best suited to routine and specialized requirements.

**Features** — Catalog contains over two hundred illustrations of these various instruments, emphasizing such features as ease of installation and operation, precision performance, convenience and visibility of charts, etc. Cross index particularly helpful in checking requirements.

**Description** — The forty-eight pages comprising this catalog are divided into ten sections. Six of these group and describe all the instruments, accessories and supplies appropriate to a particular field of application such as temperature, flow, pressure, level, humidity; remaining sections are devoted to combination instruments, valves, instrument panels and similar subjects. Ingenious use of color throughout the book adds to its interest and value. Identified as catalog 95 — A, it is available upon request.

FOXBORO CO., Dept. CEP, Foxboro, Mass.

When inquiring specify CEP5801 — see information request blank, pgs. 2-3

## Wall Cards Tell How to Care for Stainless Steel Equipment

*Series includes cards especially for process and chemical industries; list data on cleansers*



WALL CARDS . . . give instructions on care of stainless steel equipment

they may be quickly referred to by employees. Size makes them easy to read and they also serve as a constant reminder to use the proper methods and perform required operations at the required time.

**Description** — The data presented in these cards has been compiled by leading metallurgists, listing precautions and suggestions for cleaning to prolong the life of stainless steel. Underlying causes of wear and corrosion are explained. In addition, there is a tabulation of cleansers by trade name, method of application and effect on the finish. Each of the series of six cards presents complete information on these maintenance methods as they apply to a particular field. (1) Process and chemical equipment in general, (2) Pulp and paper, (3) Textile, (4) Food and beverage processing, meat packing, canning and allied lines, (5) Food handling and serving — restaurant, hospital, hotel and institutional kitchen and service equipment and (6) Dairy. Cards are 12½ by 18 inches, one or several, if plant is large, available to industrial organizations upon request.

REPUBLIC STEEL CORP., Dept. CEP, 3100 East 45th St., Cleveland, Ohio

When inquiring specify CEP5802 — see information request blank, pgs. 2-3



### FEATURES OF DODGE V-BELT DRIVES

1. Matched quality sheaves and V-belts give team performance.
2. Sheaves made of close grained iron insure smooth grooves.
3. Accurately machined grooves provide proper belt seating.
4. "D-V" Belts have concave side walls which prevent slipping over sheaves.
5. D-V belts are cured under tension require no adjustment.

**B**OMBS, shells and other munitions, months in the making, may be expended in minutes. Every wheel and shaft has a vital and unending responsibility — put all your power in the job turning them for Victory.

Dodge V-belt drives are delivering full power to millions of wheels and shafts, turning on round-the-clock schedules in the Victory production drive. More horsepower becomes battle power with Dodge efficiency and ruggedness providing safe, continuous passage for power.

Dodge V-belt drives are complete, modern power transmitting units. Sheaves and V-belts are of matched quality, assuring proper belt seating,

saving wear and power — extending the life of drives and hard pressed motors. Sheaves are carefully machined — groove dimensions are uniform, each matching V-belt carries its share of the load. They maintain constant speed ratios at all speeds. No lubrication is required, eliminating any danger of oil damage to products. Put all your power in the job with Dodge V-belt drives on modern group drives and individual machines.

Dodge Distributors specializing in "The Right Drive for Every Job" provide industry with a source of supply from local stocks, including alternate selections.

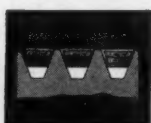
DODGE MANUFACTURING CORPORATION, Mishawaka, Indiana, U. S. A.



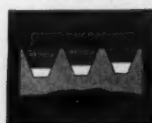
D-V Belt on straight run shows concave side walls. Later impregnation insures against good separation.



D-V Belt around sheave shows how concave side walls expand on flexing over sheave.



Accurately machined sheave grooves, match V-belt dimensions — give even pull on all belts.



When sheave grooves are not uniform, power loss and excessive wear results.

# DODGE

MISHAWAKA

THE RIGHT DRIVE FOR EVERY JOB

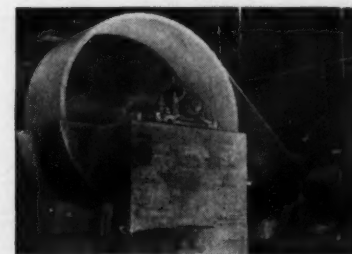


THROW ALL YOUR SCRAP INTO THE SCRAP

## PUT ALL YOUR POWER IN THE JOB

### How to Make V-Belts Last Longer

Driving sheave and driven sheave should be in exact alignment. This saves wear — prevents power waste . . . Slack off tension when mounting belts on sheave. Don't force them . . . It is wasteful to put new belts on excessively worn sheaves. Roughness shortens life of belts . . . If it is necessary to replace one or more belts on a drive, replace them all . . . Mount belts evenly so that belt tension is uniform . . . Don't overload — Dodge engineering and Dodge equipment assures "The Right Drive for Every Job."



A 300 HP. Dodge "D-V" Drive on Tube Mill Drive in Cement Mill. Important advantages are high ratio speed reduction — ability to absorb shock — substantial power savings.



This 200 HP. Dodge "D-V" Drive has been in operation for several years on a twenty-four hour a day schedule in a smelter. Dodge-Timken Type "C" Pillow Blocks, with triple steel seals, keep out dirt and retain lubricant. This prevents oil damage to belts.

When inquiring specify CEP5803 . . . see information request blank, pgs. 2-3



## RELIANCE V+S DRIVE

### AN ALL-ELECTRIC ADJUSTABLE-SPEED DRIVE for A-C. CIRCUITS

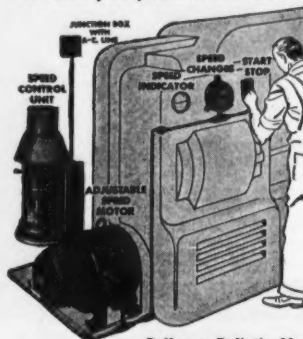
Speed Ranges up to 16 to 1  
Sizes—1 to 30 hp.

**1. DIRECT DRIVE.** You need fewer parts (no intermediate speed-adjusting device) and less space. Streamline your machine design. Get your power closer to where your power is needed.

**2. SPEED CONTROL CONVENIENCE WITHOUT LIMITATIONS.** Start-stop button and speed-changer go at any handy point to which you can run a wire. ... Control is within easy reach.

**3. FROM A. C. POWER SUPPLY.** You enjoy many advantages at a new low price due to the "packaged" V+S Speed Control Unit. Mount it anywhere. Connect it by three wires to a 3-phase a-c. circuit.

**Other Production Aids follow:** Quick stopping, reversing, speed-setting, safe speeds for threading, ample starting torque with smooth acceleration.



Reliance Bulletin No. 310 will give you the details

**RELIANCE ELECTRIC & ENGINEERING CO.**

1088 IVANHOE ROAD • CLEVELAND, OHIO

Sales Offices in Principal Cities

When Inquiring specify CEP5804 — see information request blank, pgs. 2-3



**These  
2 Books**

**WILL HELP TO GIVE YOU MORE  
EFFICIENT DRYING AND BAKING**

The information contained in these booklets will prove of timely interest to executives anxious to increase output and at the same time improve quality of their product. Learn how High Temperature Air is being utilized to speed up processing with savings in time, fuel and floor space. Ask for Bulletins 125 and 130. No obligation.

**J. O. ROSS ENGINEERING CORPORATION**

350 MADISON AVE., NEW YORK, N. Y. CHICAGO, ILL. DETROIT, MICH.  
ROSS ENGINEERING OF CANADA LTD. Dominion Square Building, Montreal

When Inquiring specify CEP5805 — see information request blank, pgs. 2-3

## PRODUCTION

### Unit Quickly Dries Safety Devices and Apparel After Sterilization

*For goggles, respirators; has nozzle for boots,  
contributes to efficient sterilization*



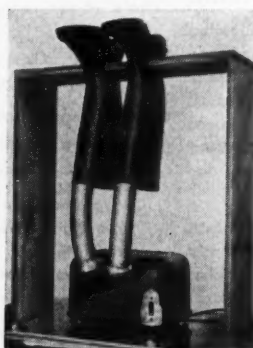
UNIT DRIES SAFETY DEVICES

... after sterilization

**Uses —** For drying rubber boots, goggles, respirators, welders, gloves, clothing and numerous other safety appliances after they have been sterilized. For quickly performing a thorough, sanitary drying job. Contributes to efficiency of sterilization operations in preventing the spread of skin infections, rashes from goggles and respirators. Also in preventing spread of respiratory diseases.

**Features —** Speeds up drying after sterilization.

Boots dried in from 5 to 8 minutes. Sterilization and proper drying contribute to longer life and efficient operation of safety appliances and apparel. Evaporation method used — eliminating handling.



RUBBER BOOTS ... dried by  
use of double nozzle attachment

**Operation —** Respirators, goggles and other safety devices or articles are laid under nozzle until drying is accomplished. Strong current of heated air carried uniformly and thoroughly to item being dried. Rubber boots are dried by use of the easily attached interchangeable double nozzle which directs air into inside and into toe, where it is most needed. Boots should be cleaned with soap and water and stiff brush, rinsed and a sterilizing solution used.

**Description —** This drier is constructed of heavy gray cast iron with all exposed parts crackle finished. Fan is of high grade steel and motor is 1-6 HP Westinghouse. Electric specifications: standard 17.5 amps or 110 v. Universal motor 1.5 amps; heater 16 amps. Available in 220 volts at small extra cost. Bulletin 1061 gives data on this unit.

CHICAGO HARDWARE FOUNDRY CO., Dept. CEP,  
North Chicago, Ill.

When Inquiring specify CEP5806 — see information request blank, pgs. 2-3

### Rugged Actuator Mechanism For Precision Snap Action Switch

*Offers complete mechanical protection — less weight  
than complete metal inclosure*

**Uses —** Originally introduced as a throttle warning switch



#### DAYTON UNIVERSAL LADDER SHOE

Easily installed on your present straight ladders. Prevents slipping — guarantees additional safety for workmen. Your choice of Rubber Suction Grip Treads or Suberac Cork Treads. Shoe is instantly converted by flip of hand or foot for either inside use of Treads or outside use of tempered steel spike Toes.

#### DAYTON SAFETY LADDER

These famous ladders save time — provide supreme safety. Ordinary ladder hazards are eliminated. Nationally used by Industry, these Dayton Safety Ladders give confidence to workers. Features a broad platform with ample room for both worker, tools and supplies. Rigid steel supports, tested airplane spruce assure great strength, stability, lightness of weight.

Equipped with Standard Rubber Safety Shoes at no extra cost.

Write today for prices and free catalog



**DAYTON  
Safety Ladder  
Co.**

121-123 W. Tmrd St.  
CINCINNATI, O.

*As Safe as Standing on the Floor*

When Inquiring specify CEP5807 — see information request blank, pgs. 2-3



**Specify OWEN  
BUCKETS**

Owen rehandling buckets consistently obtain capacity grabs of material and render long periods of service with exceptional freedom from repairs. Write for descriptive literature TODAY.

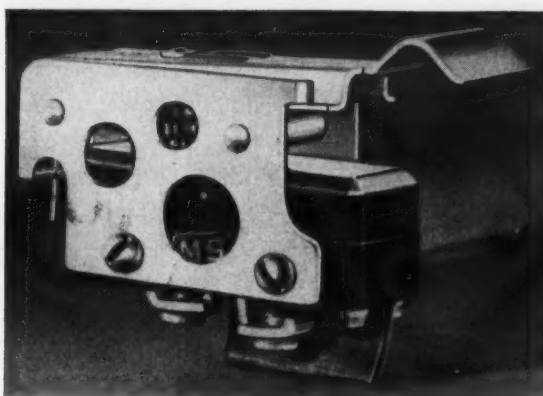
**The OWEN BUCKET Company**  
7050 Breakwater Avenue • Cleveland, Ohio  
BRANCHES: NEW YORK PHILADELPHIA CHICAGO BERKELEY, CAL.



When Inquiring specify CEP5808 — see information request blank, pgs. 2-3



## PRODUCTION



ACTUATOR . . without switch weighs two ounces

for aircraft this actuator is finding many other uses in the machine industry.

**Description** — The metal bracket accepts any type Z switch produced by the manufacturer. It offers complete mechanical protection with less addition of volume and weight than is necessary for complete metal inclosure. The rugged operating lever provides an overtravel of  $\frac{1}{8}$  in. beyond the point of switch snap with a positive and well maintained point of operation superior to that which can be obtained by less rugged mechanisms. Lever at operating end is  $\frac{11}{16}$  in. wide and shaped to easily slide over operating cam or dog. The weight of the actuator without switch is two ounces. The assembly may be mounted singly or in gang. Product is identified as "Micro Switch Actuator Type T."

MICRO SWITCH CORP., Dept. CEP, Freeport, Ill.

When inquiring specify CEP5811 — see information request blank, pgs. 2-3

## Safety Hair Net for Women Workers

*Made of heavy rayon in variety of styles and wide assortment of colors*

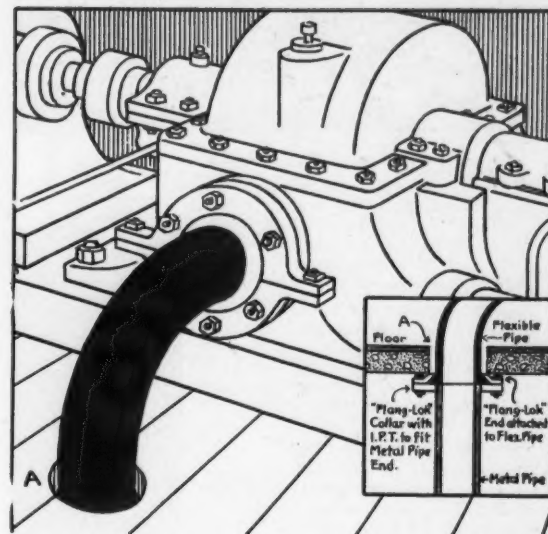


### NEW SAFETY HAIR NET

is made of heavy rayon in a variety of styles and a wide assortment of colors is offered. These nets are designed not to shift or slip and remain firmly in place. Substantial construction. Each hair net is individually packed in glassine envelope; one dozen to a carton.

INDUSTRIAL PRODUCTS CO., Dept. CEP, 2820 No. Fourth St., Philadelphia, Pa.

When inquiring specify CEP5812 — see information request blank, pgs. 2-3



## Because Goodall Knows Synthetics, You Can Continue to Have These Three Principal Advantages of FLEXIBLE RUBBER PIPE

- 1—High Resistance to Abrasion and Corrosion.
- 2—Absorbs Vibration. Extensively used in short lengths between equipment and rigid pipe.
- 3—Easy, Low-Cost Installation. Simple, quickly-applied flange connections. Flexibility permits easy adjustment when attaching to fixed outlets. Requires opening only slightly larger than its O. D., through walls, floors, etc. (A)

Synthetics are not new to Goodall chemists and production men. Long before any thought of a rubber shortage, we were supplying Chemical Plants with Flexible Pipe and Duct made with synthetic covers or tubes, to withstand chemical and physical reactions that rubber would not stand. Today, we are not only using four of the basic synthetics regularly, but by intermixing two or more of them, we can make compounds that will meet virtually every service requirement.

As the need arises for replacing your present pipe, let us show you how, through the use of properly compounded synthetics, "you can always keep going with Goodall!"

MAIN OFFICE — 15 SOUTH 36th STREET, PHILADELPHIA, PA.

Branches — New York • Boston • Pittsburgh • Chicago • Govt. Dept., Washington, D. C.

GOODALL RUBBER CO. OF CALIF. GOODALL RUBBER CO. OF TEXAS

Factory — Trenton, N. J.

Est. 1870

72 Years of "Know How." Our Most Valuable Commodity

# GOODALL

RUBBER COMPANY INCORPORATED

When inquiring specify CEP5813 — see information request blank, pgs. 2-3

**For Accurately Metering the flow of STEAM, AIR, or GAS**

**USE SHUNT METERS**

And Eliminate Waste And Guesswork

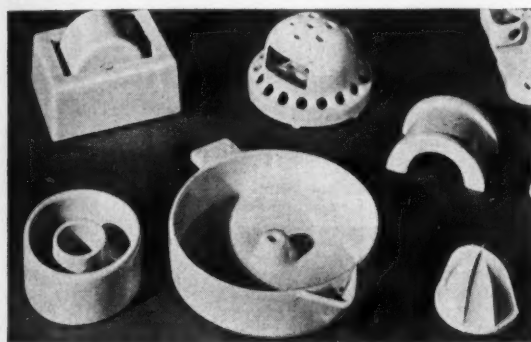
Mail this ad, clipped to your letterhead we will send Bulletin 307 and Prices.

**BUILDERS — PROVIDENCE**

(DIVISION OF BUILDERS IRON FOUNDRY)

47 CODDING STREET, PROVIDENCE, R. I.

When inquiring specify CEP5800 — see information request blank, pgs. 2-3



## COLONIAL PORCELAIN useful in chemical industry

Colonial makes all types of porcelain to serve every conceivable purpose. Many colors besides white are available. Colonial Porcelain pieces, parts and fittings are made to customers' specifications and are molded to uniform tolerances. Quality, too, is uniform, for each piece is processed in gas-fired kilns in which temperature is controlled within a narrow range.

Important for chemical uses is Colonial Porcelain's alkali and acid resistant qualities. Also it will not rust or disintegrate and is fire and fume resistant. Send us samples or drawings for price quotations.



The Colonial Insulator Co.

967 Grant St., Akron, Ohio  
Chicago Office: 1706 Fullerton Ave.

When inquiring specify CEP5810 — see information request blank, pgs. 2-3



## LINTERN "Overcoat" FOILS SABOTAGE OF FIRE EXTINGUISHERS

★ This Lintern Cabinet or "Overcoat" provides complete protection of soda acid and foam type fire extinguishers against slashed hoses, plugged nozzles and other acts of sabotage. It also includes a heater to prevent freezing, when desirable.

Since the cabinet can be opened only by key or breaking the glass window, it reveals any tampering upon even casual inspection. A suitable padlock locks the small door (hinged at top) which the inspector raises in order to operate the hasp which holds the main door securely in position.

The cabinet is all steel and dust tight protecting the extinguisher in all kinds of weather. On its top is mounted a Glowlite red signal clearly marking the location day and night and saving precious moments in event of emergency.

Rod in extinguisher nozzle automatically clears nozzle when extinguisher is removed from cabinet. Cabinet accommodates standard 2½ gallon size. Two-extinguisher size is also available.



**THE LINTERN CORPORATION**  
56 Lincoln Avenue Berea, Ohio

When inquiring specify CEP5814 — see information request blank, pgs. 2-3



## PROCESSING EQUIPMENT



"Unique" Tumbling Prism Mixer. Driven by gearhead motor. For handling dry powders that cannot stand much agitation. All-steel welded frame.

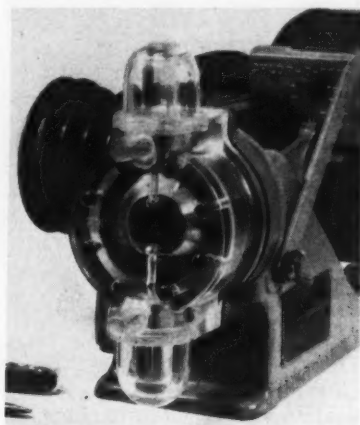
**ROBINSON MANUFACTURING COMPANY**  
WORKS: MUNCY, PA.  
**30 CHURCH STREET, NEW YORK**

When inquiring specify CEP5815 — see information request blank, pgs. 2-3

## PRODUCTION

### Transparent, Chemical Resistant Molding Used For Reagent Heads

*Retain transparency and withstand knocks, shocks*



CRYSTALITE . . . used on feeder provides visibility

**Uses** — These transparent Crystalite moldings are now being used on line of water purification equipment to provide sight feeders and reagent heads that will permit full visibility of vital working parts and that will permanently withstand chemical solutions.

**Features** — The injection molded Crystalite parts in addition to pos-

sessing chemical resistance and transparency are permanently able to withstand hard knocks and shocks.

**Description** — Water purification equipment supplied with the Crystalite sight feeders and reagent heads referred to here include those used in connection with hypochlorite solution, soda ash and alum without loss of transparency. Illustrations shows the "Chlor-O-Feeder" featuring this application of molded Crystalite. Complete information concerning complete line of equipment embodying this plastic construction will be sent upon request.

PROPORTIONEERS, INC., Dept. CEP, Providence, R. I.

When inquiring specify CEP5816 — see information request blank, pgs. 2-3

### Portable Etcher Has 14 Heats

*Range of 115-1300 watts permits etching both light and heavy steel, iron and alloys*



ETCHER . . . permanently marks metals

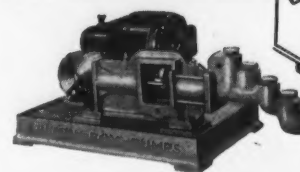
**Uses** — For permanently marking sizes, names or other information on parts, tools and any other products made from steel, iron or their alloys ranging from thin, delicate metal parts to large smooth castings. To thus provide ready, accurate identification and prevent errors, loss and theft.

**Features** — Portable, all parts readily inclosed in compact, attractive all Heat resisting hand

steel case. Leads tuck out of way.

**Description** — "Hi-lo" taps and a seven point switch give 14 etching heats between 115 to 1300 watts. Con-

## This is the Step-Valve



### . . . that Pumps Liquid Latex, Salt Slurries, Acid Sludge, Other "Difficult" Materials

Try Milton Roy Pumps for those "impossible" jobs . . . you'll be amazed at the way the patented Step-Valve handles them, without clogging or air-binding. Use Milton Roy Pumps for accurate volume control, from one quart to 2600 gals. per hour; for pumping against high pressures, up to 20,000 lbs. per sq. in.; for pumping light solvents as well as heavy, viscous materials; for practically all chemical services.

These pumps are simple, rugged, with few moving parts, built-in integral-gear motors and adjustable stroke from zero to maximum capacity (while operating if desired) for precise volume control. For description of Simplex, Duplex and Special Types, specifications of entire line and complete information, write for Catalog 941.

**We are still making prompt deliveries of most standard units. If we can help in your war effort 'phone or wire.**

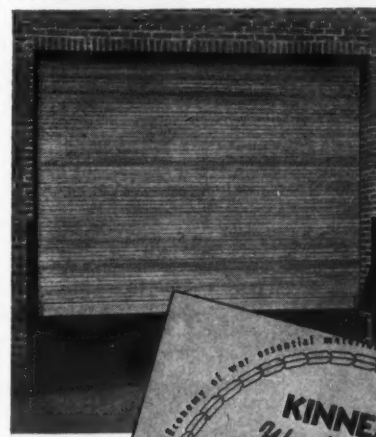
**MILTON Roy PUMPS**

1310 E. MERMAID AVE., CHESTNUT HILL, PHILA., PA.

When inquiring specify CEP5817 — see information request blank, pgs. 2-3

## DATA YOU'LL WANT — For Your Wartime Door Needs

An alternate that saves steel without sacrificing efficiency—the KINNEAR WOOD ROLLING DOOR. It incorporates, in wood construction, many of the same time-tested advantages that have made Kinnear Steel Rolling Doors industry's preference for almost a half century. Convenient, coiling upward operation. Space saving. Ruggedly built—any size. Easy to install. Specify it for your duration needs.



**Write TODAY FOR BULLETIN 37**  
Gives complete specifications and shows how the wood-slat curtain is assembled for strength, weather protection and smooth coiling.  
**THE KINNEAR MFG. CO.**  
2200-50 Fields Ave. COLUMBUS, OHIO

Offices and Agents in All Principal Cities

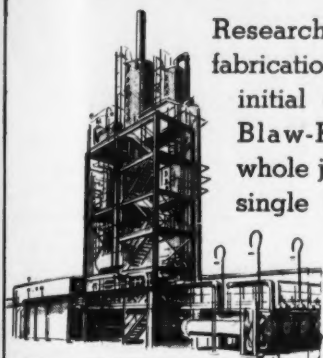
SAVING WAYS IN DOORWAYS

**KINNEAR**  
WOOD ROLLING DOORS

When inquiring specify CEP5818 — see information request blank, pgs. 2-3



## 5 STEPS UNDER 1 RESPONSIBILITY



Research, engineering, fabrication, construction, initial operation. Let Blaw-Knox do the whole job—give you a single guarantee and single responsibility.

Complete plants or equipment for the following processes . . .

Distillation	Kilning and	Organic Synthesis
Gas Absorption	Calcining	Emulsification
Solvent Extraction	Polymerizing	High Pressure
Solvent Recovery	Evaporation	Processing
Heat Transfer	Crystallization	Impregnating
Furnacing	Drying	Gas Cleaning
Cracking	Mixing and Stirring	and others

**BLAW-KNOX DIVISION OF BLAW-KNOX CO.**

FARMERS BANK BLDG., PITTSBURGH, PA.

Offices in Principal Cities

When inquiring specify CEP5819 — see information request blank, pgs. 2-3

**STAINLESS STEEL  
MONEL...NICKEL**

*Valves...Fittings...Castings*

**Resistant to  
CORROSION, HEAT  
AND ABRASION**

Cooper offers you a complete foundry and machine shop service. This modern plant can fulfill your most difficult casting requirements . . . in sizes from one ounce to two tons . . . in stainless steel, monel, nickel and many special alloys . . . rough, polished or fully machined.

A complete line of stainless steel valves and fittings are carried in stock.

**LUSTRACAST  
BRILLIANT FINISH**

Our exclusive electrolytic polishing process leaves all surfaces and crevasses, inside and out, bright and clean.

**THE COOPER ALLOY FOUNDRY CO.**  
150 BLOY STREET • HILLSIDE, NEW JERSEY

When inquiring specify CEP5820 — see information request blank, pgs. 2-3

## PRODUCTION

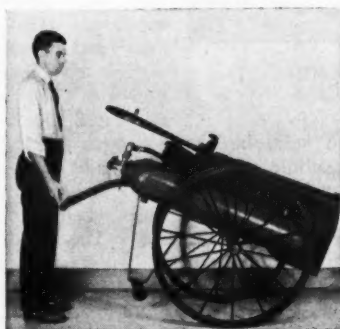
venient, renewable work plate has ground clamp attached for etching large, heavy parts and castings. Etching tool has special heat radiating fins and an alloy tip point. Secondary cables have asbestos covering. Red lamp on front of etcher indicates when power is "on." It burns brighter as each higher heat is used. Depth of mark can also be controlled by speed of writing. Etching heats; Lo — 115, 150, 175, 200, 260, 320, 380 watts. Hi — 320, 410, 500, 725, 860, 1050, 1300 watts. The complete etcher includes heavy duty transformer, 5 ounce special heat resisting tool or hand piece with heat resisting fins, alloy tip etching point, heavy asbestos secondary cables, 4x7 in. work plate. 115 volt, 50-60 cycle standard, other voltages and frequencies available. Maximum rating 1300 volt amperes. Weight 32 lbs. This machine shop model No. 18 supplements line of markers which includes five other models. Descriptive bulletin available upon request.

IDEAL COMMUTATOR DRESSER CO., Dept. CEP,  
Sycamore, Ill.

When inquiring specify CEP5821 — see information request blank, pgs. 2-3

## 100 Lb. Carbon Dioxide Engine for Electrical and Oil Fires

*Designed for perfect balance to assure easy and  
speedy handling*



LIGHT WEIGHT FIRE ENGINE

with anti-static type horn to protect operator from static charge. Retaining latch holds horn firmly in place but permits its instant release.



ELECTRICAL FIRES . . . extinguished by  
carbon dioxide gas

at wheeling height, it has a third swivel wheel for easy maneuvering. Approved by Underwriter's and Associated Factory Mutual Laboratories for use on both electrical and oil fires.

AMERICAN-LaFRANCE-FOAMITE CORP., Dept. CEP,  
Elmira, N.Y.

When inquiring specify CEP5822 — see information request blank, pgs. 2-3



**GRAIN MASH COOLING** in processing INDUSTRIAL ALCOHOL. Is difficult material to cool. But in the "Parosflow" model, A. P. V. Plate Heat Exchanger, cooling is done at the rate of 140 G.P.M. per machine.

## A. P. V. Plate HEAT EXCHANGER

Walker-Wallace Sales Engineers are available to discuss your heat exchange problems for any liquid.

Back of this are five models of A.P.V. Plate Heat Exchangers and fifteen types of plates for special jobs. One of these ought to exactly suit your most difficult requirement.

What's more where it is necessary to make a substitution of more plentiful metals for the scarcer ones, this can be done because the initial high efficiency of A. P. V. Plate Heat Exchangers already provide for such a condition.

We solicit your inquiry in person at

**Booth No. 64**

CHEMICAL EXPOSITION  
CHICAGO, Nov. 24 - 29

See also Page 1091, Chemical Catalog 1942-1943 or write us briefly about your problem.

**WALKER-WALLACE, Inc.**

14 W. UTICA ST., BUFFALO, N. Y.

Branch Office, 250 Park Ave., New York, N. Y.

When inquiring specify CEP5823 — see information request blank, pgs. 2-3



## Uniform Separation

The new model GAYCO Centrifugal air separator makes possible the uniform and increased recovery of cement and other extremely fine materials within a range of 60 to 400 mesh.

- Greater Capacity
- Cleaner Trailings
- 99% Through 325 Mesh
- 25% to 30% greater recovery of fines.
- Not affected by variation in speed or rate of feed.



Manufacturers also of "Reliance" Crushers, Screens, Elevators, Conveyors, Bin Gates, Grizzlies. Complete crushing, screening and washing plants for crushed stone, sand and gravel.

## Universal Road Mach'y Co.

Robert M. Gay Division 117 Liberty St. New York, N. Y.  
Canadian Representative: F. H. Hopkins & Co., Ltd., Montreal

When Inquiring specify CEP5824 — see information request blank, pgs. 2-3



In the switchover from steel to all-wood toilet compartments, common-sense dictated that the "engineered" features of Sanymetal steel compartments should be embodied in the all-wood compartments. These "engineered" features provide conveniences, and a degree of sanitation, that are usually unknown, unappreciated, and overlooked by those who do not have years of specialized experience and skill to draw upon in building toilet compartments. For one thing this means the elimination of dust-collecting and germ-collecting ledges and pockets. Waste no precious time experimenting and working out a design for toilet compartments when Sanymetal specialists have already developed these all-wood toilet compartments of standard flush type. These all-wood toilet compartments come to the job ready for immediate installation. One order, one priority, covers the delivery of all the wood partitions and doors, posts and headrails, and all the hardware and fittings that are necessary to complete the installation. No delays for assembling materials or for experimental erection. Sanymetal All-Wood Toilet Compartments embody the results of 27 years of research and experience in making over 53,000 toilet compartment installations. Bulletin No. 900 tells all and gives complete specifications on Sanymetal All-Wood Toilet Compartments. For quick action look under "Partitions" in your phone book for name of Sanymetal Representative in your locality.

Note: Lockers of plywood or tempered presboard have been developed by Sanymetal Engineers, and your requirements can be met promptly. Write for Bulletin No. 920.

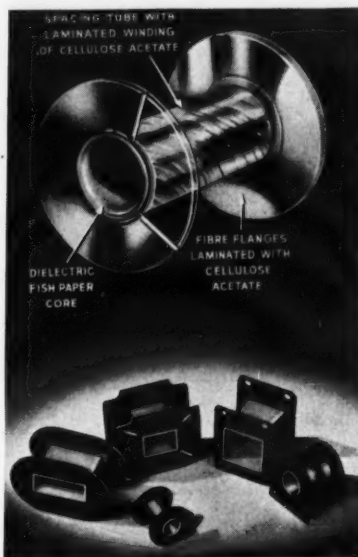
THE **Sanymetal** PRODUCTS CO., Inc. 1722 Urbana Rd. Cleveland, Ohio

When Inquiring specify CEP5825 — see information request blank, pgs. 2-3

## PRODUCTION

### Cellulose Acetate Provides Coil Bobbin More Moisture Resistance

*Light weight and permit smaller coils with same gauge of wire and number of turns*



NEW TYPE COIL BOBBIN . . . features light weight

electric fish-paper core and vulcanized fibre flanges. Spiral wound laminations of cellulose acetate are made over a die to the O. D. of the core and then with a press fit, slipped over the core to form a spacing tube. Length of the acetate determines the winding area. The inside faces of the fibre flanges are laminated with cellulose acetate before die cutting, the core then swaged, locking the flanges in place onto the core carrying the spacing tube. Acetate cement is brushed over the joinings to give complete protection and to materially strengthen the bobbin. This cellulose acetate gives moisture protection to coils used in various applications, few of which do not entail some moisture factor. These bobbins are furnished in all forms: round, square, rectangular and special shapes to fit engineering conditions.

PRECISION PAPER TUBE CO., Dept. CEP, 2033 West Charleston St., Chicago, Ill.

When Inquiring specify CEP5826 — see information request blank, pgs. 2-3

### High Wet Strength Paper Good Substitute for War Materials

*Offered in both water absorbent and repellent types; replacement for cloth and burlap*

**Uses**—The unusual strength of this paper when wet suggested the name "Aqualized," and indicates that it may have wide and satisfactory application as a substitute for cloth and burlap. It is already being impregnated by converters for many applications. A few of these are for potato bags, crate liners, loin wraps and locker bags for frozen foods.

**Features**—Paper has an inherent wet strength all the way

## These Famous BUCKETS

**SPELL SERVICE**



• There is a standard Link-Belt elevator bucket for every job. The line includes steel, malleable iron and Promal buckets of suitable size and type to meet any requirement. They are recognized as the standard for toughness — smooth, uniform construction and correct design . . . features that assure proper filling, free and clean discharge and long life.

Write for General Catalog No. 800.

**LINK-BELT COMPANY**

Chicago, Philadelphia, Indianapolis, Atlanta, Dallas, San Francisco, Toronto. Offices, warehouses and distributors in principal cities. 8875-C

**LINK-BELT**

When Inquiring specify CEP5827 — see information request blank, pgs. 2-3

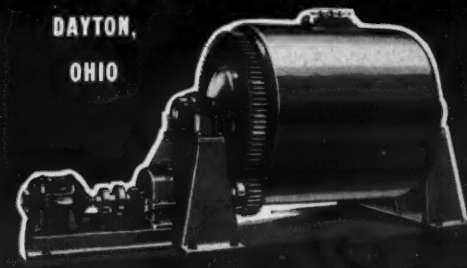
**"International"**  
is the name  
to REMEMBER when  
you want the most MODERN—

MIXING and PROCESSING EQUIPMENT

**PEBBLE and BALL MILLS,  
MIXERS, KETTLES —  
AUTOCLAVES, DIGESTERS  
BLENDERS — Send for Catalog**

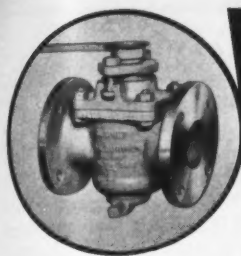
**INTERNATIONAL ENGINEERING, INC.**

**DAYTON,  
OHIO**



When Inquiring specify CEP5828 — see information request blank, pgs. 2-3





# VALVES for VICTORY

The Durco Line includes a wide range of types and sizes of valves produced in ten different corrosion-resistant alloys for handling all manner of corrosive solutions. There are:

Y valves in 7 sizes  
Plunger-Release valves in 5 sizes  
Top and Bottom Lubricated valves, each in 7 sizes  
Gate valves in 8 sizes  
Straight Way valves in 8 sizes  
Three Way valves in 5 sizes  
Foot Valves in 5 sizes  
Vertical Check valves in 8 sizes  
Horizontal Check valves in 5 sizes  
Angle valves in 6 sizes  
Five types of 3/4" Block type valves  
Mechanically operated and Float Control valves  
Plug valves with stainless steel bodies and Duriron or Durichlor plugs



When inquiring specify CEP5829 — see information request blank, pgs. 2-3

## KEEP 'PHONES FREE FOR OUTSIDE CALLS!

IS THE ARMY  
ORDER READY?

SHIPPED THIS  
MORNING, SIR.



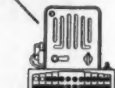
Factory Foreman



Bookkeeping Dept.



Clerical Office



Production Dept.

## EXECUTONE Communication Systems

for amplified paging and  
private 2-way conversations

Switchboard bottle-necks slow up your entire organization; interior calls cause congestion; waiting for connections wastes valuable time. With EXECUTONE, you can talk directly to, and receive information from, anyone in any part of your plant, instantly, without taking him from his work. This saves your time and the time of your employees — steps up efficiency — keeps production at full speed 60 seconds every minute.

EXECUTONE quickly pays for itself in man-hours saved.

Write for descriptive folder E4

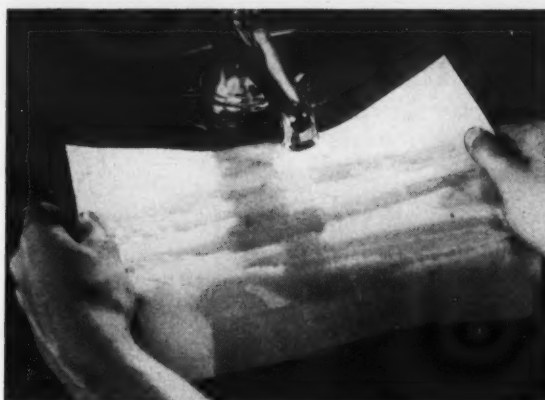
## EXECUTONE, Inc.

415 Lexington Avenue, New York, N. Y.

SERVICE FACILITIES IN PRINCIPAL CITIES

When inquiring specify CEP5830 — see information request blank, pgs. 2-3

## PRODUCTION



### NEW PAPER HAS UNUSUAL WET STRENGTH

through that is independent of any coating or sizing on the surface of the paper.

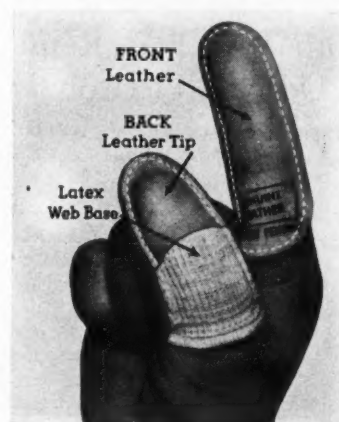
*Description*—In making this new paper, individual cellulose fibres in the paper are effectively interlocked and fastened which gives the effective water-resistant qualities. Some types of these papers are highly absorbent, while others are made to repel water. Samples and complete information may be obtained from the manufacturer.

THE BROWN CO., Dept. CEP, 500 Fifth Ave., New York City.

When inquiring specify CEP5831 — see information request blank, pgs. 2-3

## Improved Guard Protects Both Front and Back of Fingers

Can be worn on any finger or thumb or in  
any desired combination



FINGER GUARD . . for all  
around protection

webbing which makes the guard adaptable to all fingers and provides a cool, close fit. Light, clean, durable and easily put on and removed. Worn on any finger or thumb or any combination of finger and thumb. Worn in reverse affords protection to knuckles. Product is known as "Steel Grip Finger Guard."

INDUSTRIAL GLOVES CO., Dept. CEP, Danville, Ill.

When inquiring specify CEP5832 — see information request blank, pgs. 2-3

*Uses* — For certain types of punch press work, burring, sanding, grinding, buffing and assembly.

*Features* — The feature of this re-designed guard as illustrated is the added leather section on the back of the finger at the tip end. This provides the operator with protection on the back of the finger or thumb as well as at the front.

*Description* — Made of genuine leather and a special elastic

## OVERHEAD HANDLING

*Solves Your MANPOWER Problem!*

UNLOADS 21 TONS  
IN 30 MINUTES

SPECIAL CRANE SAVED  
\$800 PER YEAR

HANDLING COSTS  
CUT 64%

SAVED 33 MANHOURS  
IN CUPOLA CHARGE  
DELIVERY

2 MEN UNLOAD CAR  
IN 1 1/2 HOURS

ONE-MAN CONTROL  
OF STOCK DELIVERY

STORAGE INCREASED  
80%

PRODUCTION  
INCREASED FROM 26  
TO 48 TONS PER DAY

★ Long before the war, American MonoRail equipment was solving manpower problems. Today, the job has been multiplied many times, but American MonoRail equipment is meeting it with significant regularity.

American MonoRail equipment enables one man to do the work of many. It reduces fatigue caused by lifting and carrying. It reduces accidents. It keeps production on scheduled routes without delays and results in savings in time and money.

To achieve volume production at minimum costs with maximum speed, it will pay you to call in an American MonoRail Engineer. Let him show you how American MonoRail will solve your manpower problems and bring you increased production.



WRITE FOR Blue Book  
illustrating hundreds of  
MonoRail installations



## THE AMERICAN MONORAIL CO.

13109 Athens Avenue

Cleveland, Ohio

When inquiring specify CEP5833 — see information request blank, pgs. 2-3



See them at the Show

## WILSON PULSAFEEDERS

FEED AND CONTROL  
CORROSIVE CHEMICALS  
WITH AMAZING ACCURACY

NO TROUBLESOME PACKING GLANDS,  
STUFFING BOXES OR MECHANICALLY  
OPERATED DIAPHRAGMS

**Absolute Freedom From  
Contamination**

Write for Bulletin  
OR  
SEE OUR EXHIBIT  
**BOOTH 152**  
NAT'L. CHEMICAL  
EXPOSITION

Wilson PULSAFEEDERS will proportion any chemical solution or solutions at rates from 1 cc to 400 gallons per hour with  $\frac{1}{8}$  of 1% accuracy.

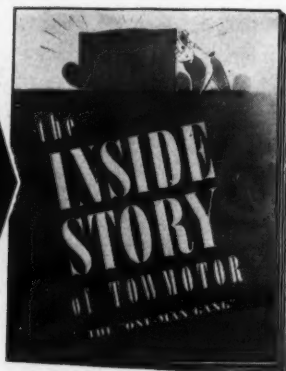
Unique construction eliminates contamination and usual chemical feeder mechanical troubles. Many types for specialized needs.

**WILSON** CHEMICAL FEEDERS, INC.  
BUFFALO, NEW YORK

When inquiring specify CEP5834 — see information request blank, pgs. 2-3

HERE'S YOUR  
TEXTBOOK ON  
LIFT TRUCKS...

**FREE**  
AT YOUR REQUEST



**NEW...COMPLETE...Amplly Illustrated**

IT'S A VALUABLE ADDITION TO YOUR BUSINESS LIBRARY

● The only book of its kind obtainable... a truly complete review of power lift truck principles and features of performance. Will help you evaluate and choose equipment to fit your needs—will show you exactly *what* you should expect from your lift trucks. Six complete sections... each one interestingly written and fully illustrated. It's a book that you'll value.

**YOU SHOULD HAVE IT • Get yours Now**

**TOWMOTOR COMPANY**

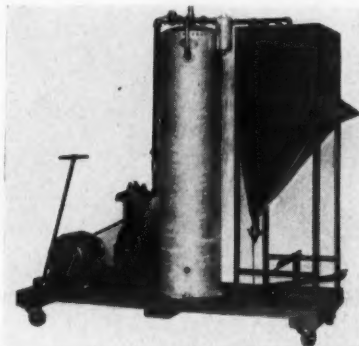
12250 E. 152nd STREET, CLEVELAND, OHIO

When inquiring specify CEP5835 — see information request blank, pgs. 2-3

## EQUIPMENT FOR PRODUCTION

### Sand Blast Equipment Adaptable To User's Production Needs

*Complete units can be varied to handle any type,  
size, weight or quantity of work*



SAND BLAST MACHINE... economical  
in re-use of various abrasives

**Uses** — This machine is designed for speed and utility in sand-blast operations as applied to materials in a wide variety of sizes and shapes including metals, glass, plastics, wood or many compositions.

**Features** — These machines, available in design to meet varying requirements, employ

self-feeding principle in which a small quantity of sand, flint, carborundum, angular steel grit or almost any abrasive may be used over and over.

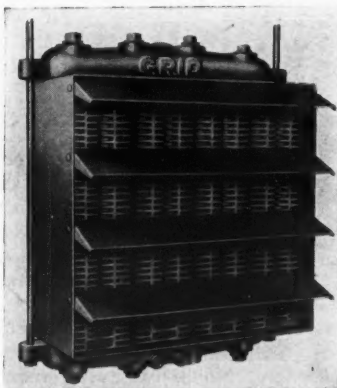
**Description** — Articles may be held by hand or fed into machine. The cabinet sand blast machine illustrated is, of course, limited in size but variations of it to suit particular types of work are available. These sand blast units, like the style illustrated are shipped completely set up ready to run. Mounted on wheels, they are quickly moved from one location to another as the demands of service may require. Detailed information in accordance with the individual needs are available upon request.

LEIMAN BROS., KW 139 Christie St., Newark, N. J.

When inquiring specify CEP5836 — see information request blank, pgs. 2-3

### Heat Units With Iron Fins Resist Acids, Do Not Develop Electrolysis

*Cast iron replaces aluminum; designed for greater  
volume of air and more air changes per hour,  
for steam and hot water systems*



UNIT HEATER... open design keeps  
it clean under atmospheric conditions

where acid conditions and fumes can

**Uses** — Designed to operate with either steam or hot water systems and provide efficient heating of the working zone for employees comfort and at low fuel cost.

**Features** — No electrolysis develops to cause corrosion that results in failures, leaks and breakdowns as only one type of metal is in contact with steam or hot water. Can be used advantageously in plants

some equipment employing steel tubes, copper or aluminum. Can be hung at greater heights to provide more air circulation. Low outlet temperatures with greater volume of air and with more air changes per hour.

**Description** — These grid unit heaters are designed and tested to operate with either steam or hot water systems for steam pressures from 2 to 250 lbs. One piece heating sections cast from high test iron supplant the aluminum type previously used. There are few joints, none brazed or soldered, and no pressed seams or tubes that can be twisted out of shape. Open design offers advantages in keeping unit clean under various atmospheric conditions. Operation not retarded by lint, dust, dirt or other particles in the air. Easily installed as permanent equipment. Available in six models. Capacity tables and specifications are given in illustrated bulletin No. CI-42, available upon request.

D. J. MURRAY MFG. CO., Dept. CEP, Wausau, Wis.

When inquiring specify CEP5837 — see information request blank, pgs. 2-3

### Data and Wall Card on Rubber Belting Care

Bulletin describes mechanical and chemical properties of malacca plastic rubber, (a pure gum rubber) and its application in maintenance of conveyor belts, sheet metal chutes, hoppers and spreading tables and emergency repairs of mechanical rubber. Also, in this connection is a large wall card containing directions and illustrations for care of rubber conveyor belting. Both available upon request.

ROBINS CONVEYING BELT CO., Dept. CEP, Passaic, N. J.

When inquiring specify CEP5838 — see information request blank, pgs. 2-3



### ONE MAN Easily MOVES 7 TONS

Heavy loads are easily moved on an inexpensive Cleveland Tramrail overhead system. Fragile loads can be handled without damage.

Carriers with life-time-lubricated, ball-bearing wheels on especially-rolled, hard, raised-tread, patented rail, make Cleveland Tramrail systems exceptionally smooth and easy running. Need of maintenance is practically nil.

For material handling ideas write for free booklet 2004-A.

**CLEVELAND TRAMRAIL DIVISION**  
THE CLEVELAND CRANE & ENGINEERING CO.  
East 283rd St. Wickliffe, Ohio

**CLEVELAND TRAMRAIL**  
OVERHEAD MATERIALS HANDLING EQUIPMENT  
Other products: CLEVELAND CRANES and STEELWELD MACHINERY

When inquiring specify CEP5839 — see information request blank, pgs. 2-3

CHEMICAL EQUIPMENT PREVIEW



One man lubricates  
more bearings than 10 men  
—and does it better!



...with Farval

Positive lubrication at regular intervals with a Farval System will not alone save men—save power—save lubricant—prevent accidents—and prolong the life of equipment, but—

It will also increase the productive capacity of your machines by eliminating all shutdowns due to lack of lubrication. You cannot afford to lose one single hour of machine production.

Save your resources—Increase your production—install Farval  
The Farval Corporation, 3257 East 80th Street, Cleveland, Ohio.

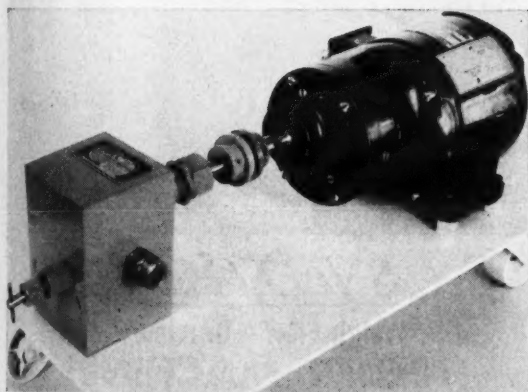
Affiliate of The Cleveland Worm & Gear Company,  
Automotive and Industrial Worm Gearing.

In Canada: PEACOCK BROTHERS LIMITED

**FARVAL** CENTRALIZED  
SYSTEMS OF  
LUBRICATION

When Inquiring specify CEP5840 — see information request blank, pgs. 2-3

## ERTEL'S MODEL "G" VICTORY PUMP



A plastic pump to meet your  
acid handling requirements

This pump has been designed to handle a wide variety of corrosive chemical solutions, both acid and alkaline. The Model "G" Pump is positive in action and its simplicity of design requires a minimum of attention. It is constructed from dimensionally stable plastic material with stainless steel shafts. This pump is applicable to laboratory and transfer work as well as pressure filtration pumping. The Model "G" pump is obtainable in  $\frac{1}{4}$  to 50 Gallon per minute capacities. Write for catalogue and particulars.

**ERTEL ENGINEERING CORP.**

Manufacturers of Liquid Handling Equipment  
KINGSTON, NEW YORK  
New York Sales Office & Showroom . . . 40 W. 48th St.

When Inquiring specify CEP5841 — see information request blank, pgs. 2-3

## PRODUCTION

### Pocket Calculators Accurately Determine Peak Crane Loads

Enables operators to avoid twisted boom heads,  
lost time and other overloading difficulties



POCKET CALCULATORS instantly give  
crane load readings

**Uses** — These maximum load finders make it easy to quickly and accurately determine how much weight can be carried by the cranes of the manufacturer issuing these handy calculators.

**Features** — Calculators are made of durable cardboard and are of convenient jumper pocket size.

**Description** — One simple setting of the slide shows the maximum loads at various distances in front of the bumper for either single, double or triple linerrevving. There is a calculator for each of the 3, 5, and 7 ton capacity models. Available to all users of the manufacturer's or similar cranes on request.

MERCER ENGINEERING WORKS, Dept. CEP, 30  
Church St., New York City.

When Inquiring specify CEP5842 — see information request blank, pgs. 2-3

### Inverted Skid Platforms Used To Handle Bars, Other Materials

Stack evenly, snugly in tiers for storage; eye  
brackets provided for crane hooks



STORAGE BINS . . inverted skids make  
easily handled units

**Uses** — For movement and storage of long bars and odd shaped parts in various types of plants where convenient and efficient handling is essential.

**Features** — Corrugated design provides added strength and durability. These units can be handled equally well

with crane, hand pallet or power trucks.

**Description** — Originally designed to handle a specific materials handling problem, its general adaptability indicated its practical use in many industries. These units are the standard all metal skids of the manufacturer, inverted and equipped with eyed brackets for the insertion of crane hooks.

UNION METAL MFG. CO., Dept. CEP, Canton, Ohio.

When Inquiring specify CEP5843 — see information request blank, pgs. 2-3

## Everlasting Fastenings

BRASS

BRONZE

COPPER

EVERDUR

MONEL

STAINLESS

Harper's Fastenings are fighting the Axis and fighting corrosion. They are being used on a multiplicity of war equipment . . . such as ships, planes, guns and tanks . . . because they successfully defy rust, corrosion and other tough conditions. Practically speaking, they are "Everlasting."

### 4320 STOCK ITEMS

. . . of bolts, nuts, screws, washers, rivets, and accessories in the non-ferrous and stainless alloys. Many are "hard-to-get." Specials manufactured to order. 4-color illustrated catalog free to executives.

The H. M. HARPER COMPANY, 2844 Fletcher  
St., Chicago; 45 W. Broadway, New York City.

**HARPER** Chicago  
EVERLASTING FASTENINGS



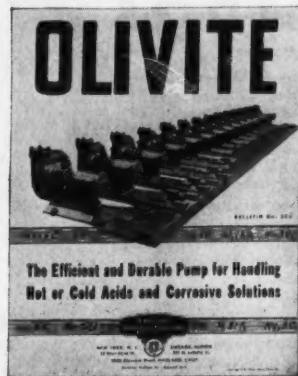
When Inquiring specify CEP5844 — see information request blank, pgs. 2-3



## OLIVITE ACID-HANDLING PUMPS

The pump which is ordered in large lots  
60 — 164 — 81 — 29 — 18  
for handling hot or cold acids  
and corrosive solutions

THAT'S literally, true. We've received many orders for OLIVITES ranging in quantity from a score or so to well over a hundred pumps. And in every case, there had been previous satisfactory experience with this efficient and durable pump.



Why not see what "makes it tick"? Send for Bulletin 308 which gives full details. And when you write or phone, give us as much information as you can about your acid-handling problem.

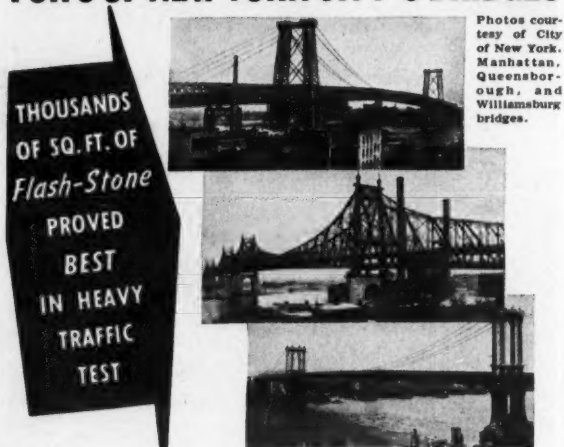
**Oliver United Filters Inc.**  
New York, N. Y. Chicago, Ill.  
Western Sales Div. San Francisco  
Oakland, Calif. California  
11-0UF-3

When inquiring specify CEP5845 — see information request blank, pgs. 2-3

## Flash-Stone SPECIFIED!

THE IMMEDIATE USE FLOOR RESURFACER

FOR 3 OF NEW YORK CITY'S BRIDGES



Photos courtesy of City of New York. Manhattan, Queensborough, and Williamsburg bridges.

**Flash-Stone**, the original immediate use floor resurfacer, beats all competition again — on 3 of America's toughest proving grounds. Put Flash-Stone to work on the floors and roads of your plant — patches or sections. Don't stop traffic, put Flash-Stone in, tamp or roll, and traffic moves over it in a matter of minutes. You'll get the best floor you ever had at any price. For indoor and outdoor use. Don't delay. Write today.

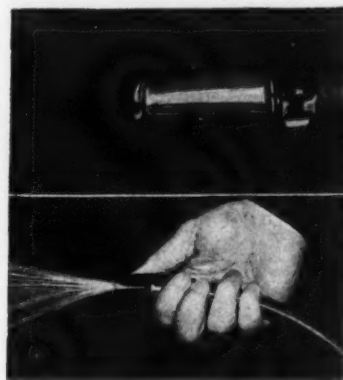
**FLASH-STONE CO., INC.** 1935 N. Twelfth Street  
Philadelphia, Pennsylvania

When inquiring specify CEP5846 — see information request blank, pgs. 2-3

## PRODUCTION

### Attachment Converts Extinguisher Nozzle to Well-Distributed Spray

*Quickly adapts present equipment for fighting magnesium bombs and certain other fires*



THUMB SPRAY . . . quickly attached to extinguisher hose nozzle

**Uses** — For easily and quickly converting the normally solid stream of standard soda-acid, foam, gas cartridge or pump tank fire extinguishers to a well distributed yet forceful spray such as is recommended for the magnesium type incendiary bomb and certain industrial fires.

**Features** — Always ready. No adjustments necessary.

**Conversion** takes

place only after liquid leaves nozzle so that operating pressures, chemical reactions or normal streams are not impaired.

**Description** — Spray is a device easily attached by sliding welded clamp over hose and ferrule of the extinguisher until the end of the thumb spray extends 1 1/4 inches from the end of the nozzle. A nut and bolt holds it permanently in position.

PYRENE MFG. CO., Dept. CEP, 560 Belmont Ave., Newark, N. J.

When inquiring specify CEP5847 — see information request blank, pgs. 2-3

### Two-Ton Hand-Electric Lift Truck For Fast, Low Cost Light Duty

*Designed for plants where floor load or limited handling operations demand light, low cost unit*



COMBINATION LIFT TRUCK . . . for lighter handling operations

**Uses** — This combination hand and lift truck is designed to give low cost efficient operation in plants where physical conditions such as minimum floor load capacity or limited handling requirements may make standard electric trucks impractical. Designed for service in variety of operations where speed and maneuverability is desired.

**Features** — Convenient hand control easily operated by natural wrist motion with handle in any position. Drive on rear wheels. Two drive motors drive each wheel in-

It's the **ADMIRAL** now!  
WAKEFIELD ACE DONS WAR CLOTHES

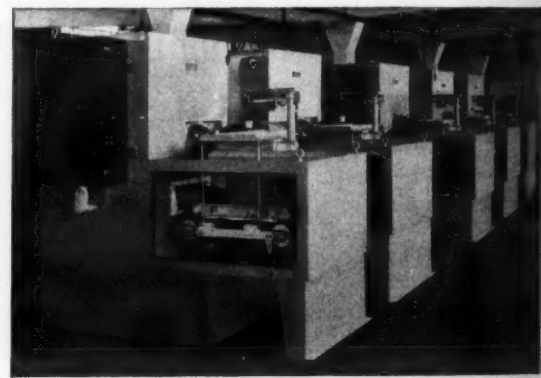


. . . and it's "tops" to look at . . . "tops" to see by . . . for war plant office

Designed to conserve war materials, THE ADMIRAL carries on for the Wakefield ACE. Provides diffused, high-intensity lighting, to speed vital paperwork; and saves almost enough steel, on each 4-lamp unit, to make a .30 cal. machine gun! Puts 90% of its light DOWN on desk-tops; with the rest to ceiling, to avoid harsh contrasts. New frame and louvers, built by cabinet-makers, use only selected first-grade wood; are anchored with metal and cemented with glue, to withstand humidity. Reflector, of Masonite reflector board, is highly efficient, thanks to 2 coats of infra-red enamel over one coat of primer. The ADMIRAL comes in 2, 3, 4 and 6-lamp units; can be interconnected on special order. Write for details.

**THE WAKEFIELD BRASS CO.**  
F. W. 112 CHEMICAL PARK  
VERMILION, OHIO

When inquiring specify CEP5848 — see information request blank, pgs. 2-3



## SYNTRON

"Weigh-Flow" Gravimetric  
**FEEDER MACHINES**

will give you ACCURATE CONTROL in weigh-feeding materials for

- Drying
- Grinding and Pulverizing
- Blending and Continuous Mixing

Write us about your problem . . . our Engineering Department will be glad to give you their recommendations.

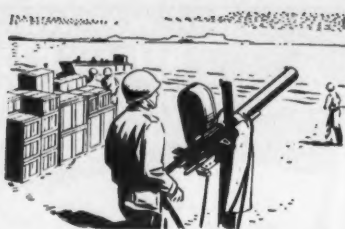
**SYNTRON COMPANY**  
110 Lexington Ave. Homer City, Pa.

When inquiring specify CEP5849 — see information request blank, pgs. 2-3



## Protection

OVER  
LAND  
AND  
SEA



## GENERAL HEAVY-DUTY BOXES

For the discomfort of the enemy, vital products must travel great distances in a global war. Consequently, they must be shipped in containers that are able to withstand rough handling and severe weather conditions.

General Heavy-Duty Wire-bound boxes are helping to get war products to the armed forces or war production assembly lines faster. Assembled and closed quickly, easy to handle, they conserve vital man-hours. Valuable space, too, is saved in trucks, trains, ships and on the shipping room floor.

General Box engineers are widely experienced in aiding shippers to meet various government packing specifications. Perhaps they can help you with your shipping problems. Write for full details.



Here, preparations are made for the overseas journey of a Diesel motor crank shaft. The package is designed to comply with Ordnance specifications.

## GENERAL BOX COMPANY

General Offices: 522 N. Dearborn St., Chicago, Ill.

District Offices and Plants: Brooklyn, Cincinnati, Detroit, East St. Louis, Kansas City, Louisville, Milwaukee, New Orleans, Sheboygan, Winchendon, Continental Box Company, Inc.: Houston, Dallas

When inquiring specify CEP5850 — see information request blank, pgs. 2-3




**POWERFUL MIDGET CENTRIFUGAL PUMP**

**A "Handful" of Midget Pump That Does the Job!**

Compact and rugged, Eastern Husky Midget Pumps fill the bill for a list of industrial applications that is continually growing.

With six basic models and many variations from which to choose, Eastern's experienced engineering staff know how to fit almost any application you can name. For complete information on pump models or engineering service, write . . .

**Eastern Engineering Co.**  
49 Fox St., New Haven, Conn.




**EASTERN HUSKY MIDGET PUMPS**

**CIRCULATING PUMP**

**BELT DRIVEN PUMP**

When inquiring specify CEP5851 — see information request blank, pgs. 2-3

## PRODUCTION

dependently. Need for two forward and two reverse speeds eliminated. Battery box tilts backwards out of way. *Description* — Frame is maker's standard construction. Rounded rear corners for easy entry between skid legs. Electric welded throughout. All frame holes bushed. Two thirds of load carried on rear wheels. Lower rear axle supported both inside and outside. Axles made from high carbon steel. Drive chains fully protected so they cannot be fouled by floor obstructions. Lifting mechanism is of multiple stroke design — mechanical type. Angle lift of approximately 200 degrees. Conveniently located release pedal that cannot be tripped accidentally. Release check is positive in action and has adjustment which permits control of speed of descent. Two front wheels widely spread for easy steering and stability. Capacity 4000 pounds, weight empty 1080 (approximate). Heights 7, 9, and 11 inches. Lengths 48 and 60 inches. Widths 19 and 25 inches. Lift 3 inch multiple stroke. Uses low cost storage battery for 8 to 12 hours continuous service. Unit named "Power Ox". Complete specifications in illustrated bulletin, No. 157-428.

BARRETT-CRAVENS CO., Dept. CEP, 3255 West 30th St., Chicago, Ill.

When inquiring specify CEP5852 — see information request blank, pgs. 2-3

## A.C. Welder Has Transformer and Reactor Built as Integral Unit

*Reactor coils surround air gap, eliminating magnetic leakage; no plugs, taps, switches*



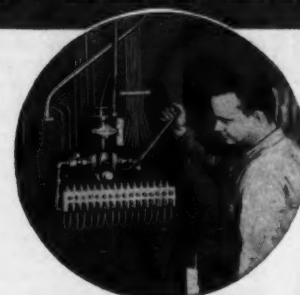
A. C. WELDING UNIT . . . provides control from 35-250 amperes

welding range from maximum to minimum setting with less than a dozen turns of the control handle. The advanced principle employed provides for continuous control from 35 to 250 amperes, a safe high open circuit voltage at low current and a lower open circuit voltage at higher current. This welder supplements the d. c. unit made by this manufacturer for welding a variety of metals as thin as 32 gauge at a current as low as 5 amperes. The addition of the alternating current unit provides in this line of equipment a welding range from 5 to over 600 amperes.

ALLIS-CHALMERS MFG. CO., Dept. CEP, Milwaukee, Wis.

When inquiring specify CEP5853 — see information request blank, pgs. 2-3

## JUST PUSH a LEVER



## LINCOLN CENTRO-MATIC LUBRICATING SYSTEM

**lubricates all bearings  
from a single source**

**C**UT production delays and lower your lubrication and maintenance costs by equipping your machines with Lincoln CENTRO-MATIC Lubricating Systems.

These modern lubricating systems are easily installed on new or old machines. They make it possible for all bearings on a machine to be lubricated from a single source, and machines can be run day and night without taking time-out for lubrication service.

A Centro-Matic System is a centralized system consisting of a number of Centro-Matic injectors—one for each bearing—and a suitable Lincoln pump for delivering the lubricant under pressure to the injectors.

The injectors may be grouped at one location or mounted separately at each bearing. In either arrangement only a single lubricant supply line is required.

The lubricant pump may be hand or power operated. Power operated systems may be semi-automatic or full-automatic.

In an installation of the type illustrated above, a man can stand beside a machine, pull a lever back and forth a few times, and a predetermined amount of lubricant will be delivered through a centralized system to each bearing on the machine. Write for Bulletin No. 888.



**ARMY-NAVY PRODUCTION AWARD**  
for high achievement in the production of war equipment has been conferred upon the Lincoln Engineering Company. It serves as inspiration toward greater and greater accomplishment until the time of final and complete Victory.

142-32A

**LINCOLN ENGINEERING COMPANY**  
PIONEER BUILDERS OF LUBRICATING EQUIPMENT  
ST. LOUIS, MO.

When inquiring specify CEP5854 — see information request blank, pgs. 2-3



## "Eliminated Two Gallons of Trouble Daily!"



**THE Universal Engineering Corp.** well-known manufacturer of rock crushing and road building equipment and presently producing a large volume of ordnance materiel, recently installed two Aridifiers. One is shown. The production superintendent reports: "We are working under such a heavy load that without the Aridifiers moisture and contamination in our air lines would have been a constant source of trouble. They're removing almost a gallon of water each per day."

That's two gallons of water that won't hinder war production by damaging air tools, gumming sand blast nozzles and spoiling sprayed finishes. Aridifiers remove contamination from compressed air or gas lines by centrifugal force — no filters, screens or baffles. Continuous, automatic. For lines  $\frac{3}{8}$ " to 10". Thousands in use. Send for Bulletin 639.

**LOGAN ENGINEERING CO.**  
4900 Lawrence Ave.,  
Chicago, Ill.

Offices in Principal Cities

## The ARIDIFIER

Dries and Cleans Compressed Air

When inquiring specify CEP5855 — see information request blank, pgs. 2-3



## Easy Operation In Inaccessible Locations

Extension shaft and hand wheel permit operation of R-S Butterfly Valve in inaccessible locations.

Simplified yet positive control and wedge-tight shut-off of any material that flows or is forced through a pipe, including chemicals, paper pulp and other semi-solids.

Streamlined vane and accurately machined body induces self cleaning.

Non-complicated construction means minimum maintenance. Low cost; manual or automatic control, pressures to 600 pounds, sizes from 2 to 84 inches. Write for catalog No. 10-B.

**BUTTERFLY VALVE DIVISION**

**R-S PRODUCTS CORPORATION**  
4531 Germantown Ave., Philadelphia



When inquiring specify CEP5856 — see information request blank, pgs. 2-3

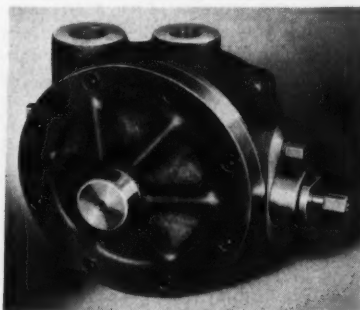


Light weight extension shaft and hand wheel construction for low pressure drops. Six revolutions of hand wheel completely open or close valve.

## PRODUCTION

### Vane Type Variable Delivery Pump

*Permits high operating pressures at low volume; high resistance to line surges*



VANE TYPE PUMP . . . delivery variable from 0-4 GPM

ing webs. Conical flat cover plate for increased resistance to shock.

**Description** — Originally designed for use with an automatic precision-type machine tool control which requires high pressure delivery at low volume. Adoption of mounting considered standard by many pump manufacturers permits pump to be used without changing current designs. A special method of balancing the individual vanes is employed. Being beveled on two edges as well as outer (stator) side, the result is a marked reduction in wear, greater operating efficiency and a safeguard against overheating. To permit maximum selection of adjustment, a split stator instead of the conventional solid ring is employed. Adjustment and limit screw on the outside of the housing allow for varying the delivery to any amount required within the operating range. Delivery is infinitely variable from 0 to 4 gpm and operating pressures are 1000 lbs. psi with a top "short interval maximum" of 3500 psi.

**HYDRA-MOTIVE CO., Dept. CEP, 253 Aubin Ave., Detroit, Mich.**

When inquiring specify CEP5857 — see information request blank, pgs. 2-3

### Plant Communicating System Clears Stations for Emergency Messages

*Executive and monitor stations equipped with signals indicating when sub-stations busy*

**Uses** — To provide a communication system of great flexibility and thorough coverage of plant and permit immediate use of all stations, even those that may be busy for emergency communication.

**Features** — Executive and monitor stations equipped with signals to show when other stations are busy. Power consumption of entire system of 21 stations is only 56 watts. **Description** — The executive-monitor communication system described here combines a number of standard features offered in the several systems and units of communication equipment of the manufacturer. Two or more master stations can be connected with as many as nineteen remote control or executive stations providing facilities for executives to talk to each other or to a number of points in the plant. Monitor station can sift all calls and if desired transfer them to executive station. Push button selection speeds operation in calling any one or all stations. Persons called can reply remotely without leav-

**Uses** — As a replacement for existing pumps or as original equipment where an infinitely variable delivery vane-type pump is desired.

**Features** — Design permits high operating pressures at low volume with high resistance to line surges. Heavier section re-inforc-

## When War Work Calls for PULVERIZING THESE WAR PLANTS PICK MIKRO-PULVERIZER

Canadian Car Munitions, Ltd.  
Trojan Powder Co.  
Atlas Powder Co.  
E. I. DuPont de Nemours & Co.  
Standard Railway Fuse Corp.  
General Engineering Co. (Can.) Ltd.  
Defense Industries Ltd.  
Powder Metals and Alloys, Inc.  
International Flare-Signal Co., Ltd.  
Unexcelled Mfg. Co., Inc.  
Reade Mfg. Inc.  
American Railway Signal Co.  
National Fireworks, Inc.  
Pacific Coast Processing Co.  
Naval Ammunition Depots

Magna Mfg., Inc.  
Elkton Chem. and Test. Lab.  
Diamond Magnesium Co.  
Chemurgic Corp.  
MacDonald Chemicals Ltd.  
Twin Cities Ordnance Plant  
St. Louis Ordnance Plant  
Indiana Ordnance Works  
Ogden Ordnance Depot  
Kingsbury Ordnance Plant  
Oklahoma Ordnance Works  
Frankford, Picatinny  
Edgewood Arsenal

BOOTH 135  
National  
Chemical  
Exposition,  
Chicago

### FREE CATALOG FREE GRIND TEST

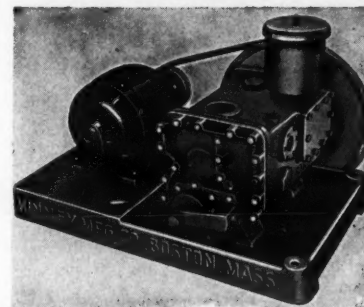
A 32 page catalogue sent on request. And to back up the proof of the catalogue we'll make a sample grind of your materials—free.

**PULVERIZING MACHINERY COMPANY**  
60 Chatham Road • Summit, N. J.



When inquiring specify CEP5858 — see information request blank, pgs. 2-3

## KINNEY VACUUM PUMPS



**Kinney Model CVD Compound Vacuum Pumps** produce ionization gauge readings of 0.5 microns regularly in our laboratory.

Unlike pumps using sliding vanes, the pistons in the Kinney High Vacuum Pump have no contact with the cylinder surfaces, all clearances being perfectly sealed and lubricated with oil. Because of the absence of mechanical contact, these pumps maintain their ability to produce extremely low absolute pressures over long periods without repairs or breakdowns. When operating under high vacuum, the pump is quiet and free from vibration.

They are furnished in 2 sizes, 15 and 46 cu. ft. Write for Bulletin 18.

**KINNEY MANUFACTURING CO.**  
3573 Washington St. Boston, Mass.  
New York 30 Church St. Chicago  
Philadelphia 725 Commercial Trust Bldg. Los Angeles 59 E. Van Buren St.  
San Francisco 55 New Montgomery St.  
1333 Santa Fe Ave.

When inquiring specify CEP5859 — see information request blank, pgs. 2-3



## PRODUCTION



### COMMUNICATING SYSTEM FOR FLEXIBLE SERVICE . . .

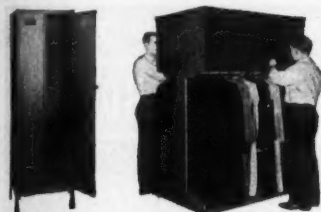
between master stations and one or all other stations ing work to approach station. High powered trumpet type sub-stations provide extra volume to cover large space areas or penetrate large noise levels. All wiring lines are connected to neat, easily installed junction boxes. 110-120 volts AC or DC.

EXECUTONE, INC., Dept. CEP, 415 Lexington Ave., New York City.

When inquiring specify CEP5860 — see information request blank, pgs. 2-3

### Wood Cabinets, Wardrobes in Wide Variety for Office and Shop

*Hardwood frames, plywood panels; designed for efficient utilization of space*



LOCKERS

SHOPROBE  
(PAT. NO. 2,302,427)



CABINET

ENGINEERED IN  
**WOOD**  
FOR THE DURATION

WOOD STORAGE UNITS . . . suitable replacement for metal type

They are especially suited to industries in which personnel total fluctuates and where low storage cost is desired. Unit that will provide facilities for twenty persons (double-faced) requires only 13 3/5 sq. ft. floor space. Unit for ten (single faced), 6 4/5 sq. ft. Lockers are offered in five stock sizes four single tier and one double tier. Top, bottom and frame are of hardwood. Sides, backs, doors, pressed wood. Cabinets are similar in construction and available in three types, storage wardrobe and combination and in two sizes: 36 x 18 x 72 in. and 36 x 24 x 72 in.

LYON METAL PRODUCTS, INC., Dept. CEP, Aurora, Ill.

When inquiring specify CEP5861 — see information request blank, pgs. 2-3

# FOR VICTORY TODAY AND SOUND BUSINESS TOMORROW



## Get This Flag Flying Now!

This War Savings Flag which flies today over companies, large and small, all across the land means *business*. It means, first, that 10% of the company's gross pay roll is being invested in War Bonds by the workers voluntarily.

It also means that the employees of all these companies are doing their part for Victory . . . by helping to buy the guns, tanks, and planes that America and her allies *must* have to win.

It means that billions of dollars are being diverted from "bidding" for the constantly shrinking stock of goods available, thus putting a brake on inflation. And it means that billions of dollars will be held in readiness for post-war readjustment.

Think what 10% of the national income, saved in War Bonds now, month after month, can buy when the war ends!

For Victory today . . . and prosperity *tomorrow*, keep the War Bond Pay-roll Savings Plan rolling in *your* firm. Get that flag flying now! Your State War Savings Staff Administrator will gladly explain how you may do so.

If your firm has not already installed the Pay-roll Savings Plan, *now is the time to do so*. For full details, plus samples of result-getting literature and promotional helps, write or wire: War Savings Staff, Section F, Treasury Department, 709 Twelfth Street NW., Washington, D. C.



Save With

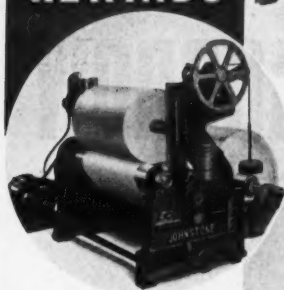
## War Savings Bonds

This Space Is a Contribution to America's All-Out War Program by

### CHEMICAL EQUIPMENT PREVIEW



## SLITS and REWINDS

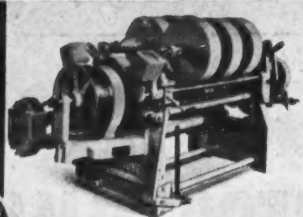


Paper, Board, Gauze, Burlap, Osnaberg Cloth, Waxed Papers, Abrasive Paper, Abrasive Cloth, Varnished Cambrics, Imitation Leather, Coated Papers, Un-Cured Rubber, Semi-Cured Rubber.

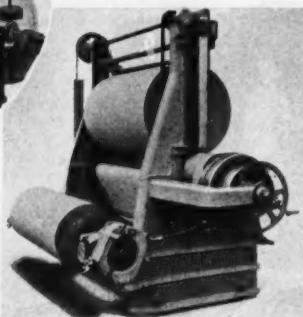
Catalogs Sent on Request  
Also Catalog re: Unique  
Uniform Tension Unwinder

**JOHNSTONE**  
Engineering & Machine Co.  
DOWNTOWN, PA.

When inquiring specify CEP5862 — see information request blank, pgs. 2-3



CLEAN CUT, DENSE, HARD  
UNIFORMLY WOUND ROLLS



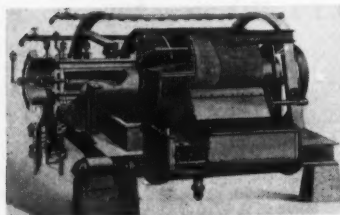
Modern, recently designed Johnstone Machines are being used for Faster Production in numerous Essential War Industries. If you are "converting" to war work, or need equipment to "speed-up" your war production, our twenty-five years' experience is at your disposal.

## Swenson Filters for Every Requirement

Let Swenson engineers analyze your filter requirements and recommend suitable equipment based on years of experience with similar problems. Swenson Evaporator Co. (Div. of Whiting Corp.), 15667 Lathrop Ave., Harvey, Ill.



**TOP FEED FILTERS**  
For crystalline  
solids and a bone  
dry product.



**ROTARY DRUM VACUUM FILTERS**

Adaptable to a wide range of requirements with high efficiency.



**ROTATING LEAF  
PRESSURE FILTERS**  
For colloidal or semi-  
colloidal solids.

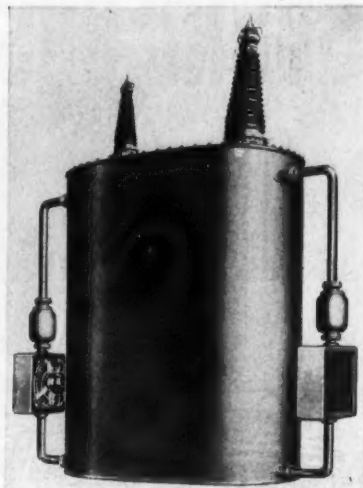
**SWENSON**

EVAPORATORS • FILTERS • CRYSTALLIZERS

## PRODUCTION

### Cooling Units Increase Capacity Of Transformers 20 to 60%

Designed for use in new transformers or for  
those already in service



ELECTRO-COOLER used with forced  
oil system of cooling transformers

*Uses* — Applicable to both new transformers and those already in service to increase their capacity.

*Features* — If transformer has radiator valves, the unit can be removed without draining the transformer oil and parts can be replaced without delay in transformer operation. Installation easily accomplished in a few hours. Steps up capacity of transformers already in service by about 20 to 60%.

*Description* — Device consists of a radiator-type cooler and a special pump with motor inclosed. These are connected by piping to the standard radiator valves at the side of the transformer. No stuffing boxes are required in the special pump and the motor is self-cooled and self-lubricated. Can be built into new transformers and readily applied to those in service subject to manufacturer's recommendations. These units are relatively small and more than one is usually required depending on the size of the transformer. Greater reliability of the multiple units can be expected since operation of one is not dependent upon the other. Factory assembled and factory tested at high pressure to minimize possibility of future maintenance.

ALLIS-CHALMERS MFG. CO., Dept. CEP, Milwaukee, Wis.

When inquiring specify CEP5863 — see information request blank, pgs. 2-3

### Indirect Dryer Handles Fine Mesh Materials With Minimum Dust Loss

*No independent dust collectors required; odors  
from materials readily destroyed*

*Uses* — This indirect rotary dryer is designed for drying of materials which are injured by direct contact with furnace gases. Handles materials of—30 mesh without appreciable dust loss, by means of attachment which prevents air from flowing through drying compartment.

*Features* — Indirect heat. Tubular construction. Drum is inclosed in an insulated steel casing that utilizes entire surface of outer shell for additional heating surface. May also be used as a rotary retort and distilled gases recovered, or drying done in an inert atmosphere.

*Description* — All opening closed against infiltration of air but permitting continuous operation. All bearings are anti-friction, totally inclosed and self-aligning. No independent dust collectors required and by slight modification,

## What's a good HOTEL IN DETROIT?



We're glad you asked . . . because there's more than one good hotel in this city. We could name six or eight outstanding hotels offering fine accommodations at comparable rates.

Well then, what hotel should you stop at in Detroit? We say you'll like any of our leading hotels . . . but we ask that you give us a try.

We think we have a little extra to offer. It's difficult to describe this "little extra" but perhaps our long standing slogan can say it for us—

*Aglow with Friendliness*  
**HOTEL FORT SHELBY**  
DETROIT

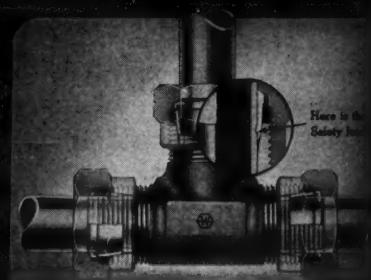
J. E. Frawley, General Manager

When inquiring specify CEP5864 — see information request blank, pgs. 2-3

If the tubing will carry the pressure

**ERMETO WILL HOLD IT**

★  
NO  
FLARING  
THREADING  
WELDING  
OR  
SOLDERING



★ Weatherhead Ermeto Safety Tube and Pipe Couplings answer the problem of connecting tubing without the necessity of flaring, threading, welding, or soldering.

With Ermeto Safety Fittings, connections can be made with practically all types of tubing materials. These connections will hold up beyond the burst strength of the tube itself. Exhaustive tests have also proved the superior qualities of Ermeto in the ability to withstand vibration without loss of tightness of the joint.

Ermeto fittings have wide applications on hydraulic lines, oiling, water, gas, fuel and air lines.

Write for samples and complete details.

THE WEATHERHEAD CO., 300 E. 131st Street, Cleveland, Ohio

**WEATHERHEAD**

TUBE FITTINGS • FLEXIBLE HOSE • VALVES • DRAIN COCKS  
AVIATION, AUTOMOTIVE AND REFRIGERATION SPECIALTIES

When inquiring specify CEP5865 — see information request blank, pgs. 2-3





## "GENTLE PUSH" action prevents agitation and foaming

"Gentle Push" action is an exclusive feature of Tri-Clover Pumps. The famous patented one-piece impeller produces a gentle, even flow without pulsations or agitation. These pumps are ideal for milk, ice cream mix, fruit juices, tomato juice, corn, syrups, wines, beer, alcohol, etc. • 16 models ranging from 3/4" to 6" sanitary or iron pipe connections, in maximum capacities from 100 to 42,000 gallons per hour. Furnished complete with splash-proof motor. Write for catalog and price list.

**TRI-CLOVER MACHINE CO. • KENOSHA, WIS.**

When inquiring specify CEP5866 — see information request blank, pgs. 2-3

**TRI-CLOVER  
Sanitary  
Pumps**

## PRODUCTION



INDIRECT DRYER . . handles fine mesh materials

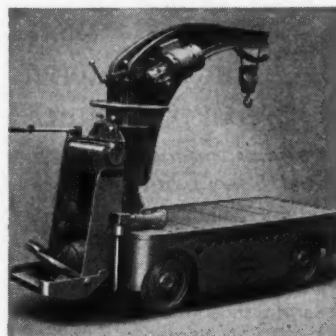
objectionable odors from the materials can be destroyed. Any nature of fuel or heating medium can be used and efficiencies obtained better than 60%. Recirculation of furnace gases give easy control of temperatures and improved efficiency. Information and descriptive literature available upon request regarding this type B. V. and other York, N. Y.

**L. R. CHRISTIE CO., Dept. CEP, 17 East 42nd St., New York, N. Y.**

When inquiring specify CEP5868 — see information request blank, pgs. 2-3

## Truck Unit Combines Load Carrier, Tractor and Mounted Crane Service

*Rated capacity 6000 lbs., hauling speeds up to  
5 m.p.h., stabilizing compound coil springs*



TON CRANE UNIT . . mounted on  
electric carrier-tractor

**Uses** — This new industrial truck unit performs as a load carrier and tractor and mounts a small crane. Well adapted to lifting and transporting numerous heavy, bulky objects, loading trailers and then hauling them.

**Features** — Widely spread, stabilizing compound coil springs on drive and trail axle; equal length full floating drive shafts.

**Description** — Truck operates with two-wheel drive and four-wheel steer. Frame made of heavy section formed plates welded into a one-piece structural unit combining the control dash. Crane handles up to 2000 lbs. at 42 inches on the boom which is of special design, of heavy formed channel members rigidly reinforced with tie rods, lattice bars and gusset plates and slews around a 3 1/2 inch diameter alloy steel pillar. Thrust load is taken on over-size ball bearings at the base of the column; radial load on roller bearings at both top and bottom. Unobstructed platform is 84 in. long, 40 in. wide and 25 in. high. Rated capacity 6000 lbs. Hauling speed up to 5 miles per hour. Listed under Underwriters' Laboratories re-examination service. Identified as Model IZ-6C.

**ELWELL-PARKER ELECTRIC CO., Dept. CEP, 4205 St. Clair Ave., Cleveland, Ohio**

When inquiring specify CEP5869 — see information request blank, pgs. 2-3

For Positive collection  
of gas-borne critical  
materials — specify  
**COTTRELL**



• For more than 35 years Cottrell Electrical Precipitators have been cleaning air and commercial gases, recovering values and eliminating the nuisance of gas-borne dust. Cottrell Precipitators are self-liquidating investments free from recurring maintenance charges and obsolescence reserve.

• Now more than ever before, selection of the correct collection equipment is of paramount importance in plant construction and enlargement.

Critical material shortages make it imperative to specify the method which will, over a period of time, maintain the highest efficiency at lowest power, operating and maintenance costs.

• The collection problems faced by Industry today—whether simple purification, collection of values, nuisance abatement or combinations of all—can be solved quickly and efficiently by Cottrell Electrical Precipitators. Send for descriptive Bulletins.

## WESTERN PRECIPITATION

ENGINEERS, DESIGNERS AND MANUFACTURERS OF EQUIPMENT FOR COLLECTION OF SUSPENDED MATERIALS FROM GASES AND LIQUIDS

MAIN OFFICES: 1011 WEST NINTH STREET, LOS ANGELES, CALIFORNIA  
N. Y.: Chrysler Bldg. • Chicago: 140 S. Dearborn St. • San Francisco: Hobart Bldg.  
PRECIPITATION COMPANY OF CANADA, LTD., Dominion Sq. Bldg., Montreal

When inquiring specify CEP5870 — see information request blank, pgs. 2-3

## SAVE SOLVENTS

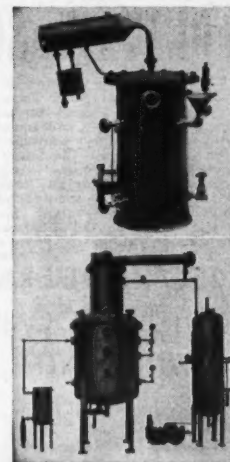
with  
**ARTISAN  
RECOVERY STILLS**  
Batch or Continuous  
Operation

Help the national production effort by recovering solvents . . . Call on ARTISAN ENGINEERS to assist in SAVING SOLVENTS that are difficult to buy and are needed in your production . . . ARTISAN ENGINEERS are experienced in the design of solvent recovery apparatus . . . Many companies now saving essential solvents with ARTISAN EQUIPMENT . . . Small, batch stills available from stock.

Write or Wire

**ARTISAN METAL PRODUCTS INC.**  
12 Sullivan Square Boston, Mass.

When inquiring specify CEP5871 — see information request blank, pgs. 2-3



## WHITNEY Platform Conveyor CHAINS



Give

## "KID-GLOVE HANDLING" to Valuable Products

This manufacturer's pharmaceutical products get safe, smooth, sanitary handling on level-top Whitney Platform Chains. Breakage is avoided . . . container-bottoms are not soiled. And Whitney Platform Chains are built on standard Whitney alloy-armored-steel Roller Chains . . . to give extra service life under today's non-stop operating conditions.

**THE WHITNEY CHAIN & MFG. CO., HARTFORD, CONN.**

When inquiring specify CEP5867 — see information request blank, pgs. 2-3



## SPERRY *Experience*

CAN SOLVE YOUR  
FILTRATION PROBLEMS

The first Sperry Filter Press was built more than 45 years ago. The years since then have been years of advancement — years of experimenting and research — of meeting new and complex filtration problems — and solving them.

Today, Sperry Filter Presses are used in hundreds of the foremost manufacturing plants of the country, embracing practically every known type of industrial filtration.

In the War industries Sperry's contribution to increased speed and efficiency has been outstanding, and hundreds of items vital to Victory are dependent upon the experience which has been built into this equipment.

Whatever your industrial filtration problem may be, you'll find it to your advantage to consult Sperry. Send us a sample of your material. We'll gladly make an analysis and submit unbiased recommendations without obligation.

Send for your free copy of the new  
Sperry Fact Book. Valuable charts  
and data on industrial filtration.

**D. R. SPERRY & CO., BATAVIA, ILL.**

Filtration Engineers for over 45 years

Eastern Sales Representative  
HENRY E. JACOBY, M. E.  
205 E. 42nd St., New York  
Phone MUrray Hill 4-3581

Western Sales Representative  
B. M. PILHASHY  
Merchants Exchange Bldg.  
San Francisco, Calif.

When inquiring specify CEP5872 — see information request blank, pgs. 2-3

## FOREMOST IN CINCINNATI

### HOTEL FOUNTAIN SQUARE

If you consider location important, stop at Hotel Fountain Square — close to all business, shopping and social centers, providing unrivaled convenience in Cincinnati. Large, pleasant rooms — superior service. For fine food visit the air conditioned Moorish Grill — and the Olympic Cafe and Bar for sparkling gaiety.

**250 MODERN  
OUTSIDE ROOMS  
WITH BATH**

**\$2.50  
from \$2.**

M. J. DEININGER, Manager

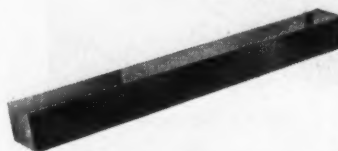
ONE OF THE ALBERT PICK HOTELS.

When inquiring specify CEP5873 — see information request blank, pgs. 2-3

## PRODUCTION

### Drill Metal Used in Tool Bits Gives Strength, Cutting Speed

*Used on hard steel, high chrome, nickel, aluminum,  
rolled and cast alloys on heavy forgings  
and for finishing*



TOOL BIT . . for hard steel

series, high chrome, high nickel and high speed tool steels. Also for use on abrasive copper, brass, bronze and aluminum alloys, either rolled or cast. Especially suited for use on heavy forgings where deep rough cuts can be made at faster cutting speeds, but at the same time, give excellent results when used as finishing or forming tools.

**Features** — Cut down scrap losses on many of today's critical metals.

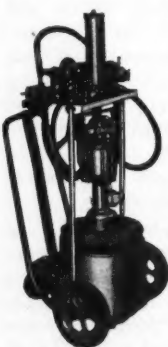
**Description** — These bits are made of the same metal that has been used for a long time in well known patented drills and reamers. Great shock and heat resistance. Can be reground many times on ordinary wheel. Maker cites cases on record that show cuts per grind increased as much as 400 to 500% when these tools bits replaced high speed tools. Known as "Hardsteel" tool bits.

BLACK DRILL CO., Dept. CEP, Cleveland, Ohio.

When inquiring specify CEP5874 — see information request blank, pgs. 2-3

### Portable Pump Applies Materials Direct From Original Container

*Handles sealing compounds, insulation, putty,  
viscous grease and heavy lubricants*



PORTABLE  
materials  
pump

**Uses** — For handling such materials as sealing compounds, sound proofing products, insulation, putty, viscous greases and many others whose characteristics make them difficult to apply.

**Features** — This equipment provides a convenient time saving means of pumping the material to be handled directly from the container to point of application. Also offers the advantage of cleanliness and economy eliminating waste from spillage and also any hazards that such might involve.

**Description** — This is an addition to an extensive line of similar equipment that includes stationary models of varying larger capacities. All employ a principle of pump design termed "forced feed induction priming," which is used to assure steady, accurate and speedy service. This portable model offers the feature of being quickly transferable to any location where such service is required. Identified as model 50. Specifications and literature are available upon request.

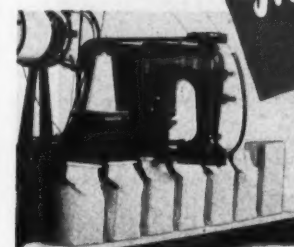
LINCOLN ENGINEERING CO., Dept. CEP, 5701 Natural Bridge Ave., St. Louis, Mo.

When inquiring specify CEP5875 — see information request blank, pgs. 2-3

## IF YOUR PROBLEM IS

*Shipping  
Containers*

— this may  
be the  
*Answer!*



COUNTLESS applications in all types of industries are proving the versatility of fabric, paper and combination fabric and paper bags. Manufacturers of a wide range of products are successfully using bags as efficient, economical shipping containers.

For help in setting up an efficient bag closing system to meet all demands on all types and sizes of bags consult Union Special — for years recognized as "bag closing headquarters." The machine illustrated above is a typical Union Special development — it comprises a STYLE 60000 C sewing head fitted to automatically apply a taped closure to small paper bags. Write for full details on a bag closing set-up designed for your particular needs.

UNION SPECIAL MACHINE CO.

442 No. Franklin St.,

Chicago, Ill.

## UNION SPECIAL Bag Closing Machines

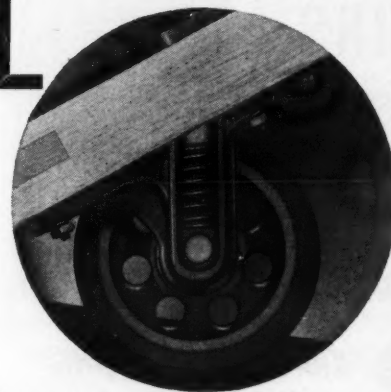
When inquiring specify CEP5876 — see information request blank, pgs. 2-3

### SPRING BEARING feature on "Weld-Bilt"

Platform Trucks . . .

**SAVES:**

- TIME
- LABOR
- MEN
- FLOORS
- PRODUCT DAMAGE



Shocks from door sills, floor obstructions, rough floors, even ordinary wheel vibrations are absorbed in the unique

SPRING BEARING axle construction used on "Weld-Bilt" Trucks.

This means easier, faster trucking, less fatigue to truckers, less jar on truck load, less chance of product damage, less wear on floors, and LONGER TRUCK LIFE.

★ Let us show you how "WELD-BILT" SPRING BEARING Trucks will speed up YOUR materials handling problems. They're made in styles and designs for ALL needs. Write for Bulletin.

## WEST BEND EQUIPMENT CORPORATION

Materials Handling Engineers

226 S. Water Street • West Bend, Wisconsin

Manufacturers of Portable Electric Elevators, Two Wheel and Four Wheel Trucks, Skid Platforms, Barrel Racks, Taring Machines and special equipment

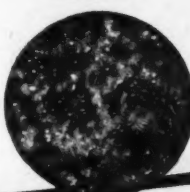
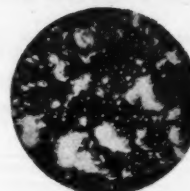
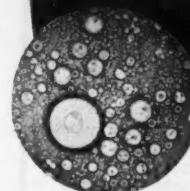
When inquiring specify CEP5877 — see information request blank, pgs. 2-3



# ADVERTISERS IN THIS ISSUE

Advertiser	Agency	Page	Advertiser	Agency	Page
Abbe Engineering Co.	Spooner & Kreigel	44	Kinnear Mfg. Co.	Wheeler, Kight & Gainey	68
Acme Steel Co.	Buchen Co.	51	Kinney Mfg. Co.	Alden M. Hammond Advtg.	76
Alberene Stone Corp.	Basford Co., G. M.	32	Kirk & Blum Mfg. Co.	S. C. Baer Co.	41
Allis-Chalmers Mfg. Co.	J. Stirling Gershell, Inc.	13	Knight, Maurice A.	Jaqua Company	23
Alloy Steel Products Co.	W. N. Hudson, Advertising	22	Kold-Hold Mfg. Co.	Ed Wolff & Associates	16
Altop Engineering Co.	Robt. L. Hirschfeld	36	Lapp Insulator Co.	Jaap-Onr Co.	12
Alvey-Ferguson Co.	Keelor & Stites	6	Leeds & Northrup Co.	Arthur R. Mogge Inc.	75
American Foundry Equip. Co.	Bayless-Kerr Co.	71	Lincoln Engrg. Co.	Behel & Waldie & Briggs	52, 60, 70
American Monorail Co.	J. Thomas Chirug Co.	35	Link-Belt Co.	Bayless-Kerr Co.	68
American Tool & Machine Co.	Will, Inc.	9	Linter Company	Lucerna Co.	28
Anderson Co., V. D.	Kennedy & Co.	32	Liquidometer Corp.	Advertising Producers Associated	76
Anstaber Bros.	Russell T. Gray, Inc.	37	Logan Engineering Co.	Merrill Symonds	55
Armstrong Machine Works		4 and 5	Lovejoy Flexible Coupling Co.	Kreicker & Meloan	23
Artisan Metal Products Co.	John H. Riordan Co.	18	Marsh Corp., Jas. P.	Walter J. Gallagher, Advtg.	64
Automatic Transportation Co.	W. S. Hill Co.	26	Mercer Engineering Works	Bayless-Kerr Co.	30
Avery Adhesives	Seemann & Peters	70	Meriam Company	Fred M. Randall Co.	21
Bacharach Industrial Instrument Co.	Basford Co., G. M.	10	Milburn Company	McLain Organization	68
Baker-Perkins Co.	Sutherland-Abbott	26	Milton Roy Pump Co.	C. L. Rumrill & Co.	85
Baker-Raulang Co.	Spooner & Kreigel	63	Mixing Equipment Co.	Weston-Barnett, Inc.	24
Barnstead Still & Sterilizer Co.		38	Mortell Co. J. W.	Hyatt Eby, Advtg.	54
Beach-Russ Co.	Van Auker-Ragland, Inc.	38	Moto-Mower Company	R. C. Breth, Inc.	46
Beaver Pipe Tools Co.	Walter B. Snow & Staff	42	Multiplex Concrete Machy. Co.	Geo. C. Taylor, Advtg.	48
Benjamin Electric Co.	Mary Associates	10, 37	Murray Mfg. Co., D. J.	Dozier-Graham-Eastman	26
Bird Machine Co.	Al Paul Lefton, Inc.	39, 69	Natl' Carbon Co., Inc.	National Drying Machy. Co.	48
Blackmer Pump Co.	Louis M. Cottin, Inc.	14	National Technical Labs.	Nicholson & Co., W. H.	42
Blue-Knox Co.	Industrial Advertisers	17	Nicholson & Co., W. H.	Northern Blower Co.	49
Blickman, Inc., S. F.	Henry T. Bourne & Associates	25	Ohmite Mfg. Co.	Henry H. Teplitz	31
Bowser Co., S. F.	Lloyd Mansfield Co.	48	Oliver United Filters Inc.	Alan B. Sanger, Advtg.	38, 74
Brown Fibre Co.	Alden M. Hammond Advtg.	67	Owen Bucket Co.	T. H. Ball & Associates	66
Buffalo Wire Works	Rudolph Krebs, Advtg.	49	Palmer Company	Parsons Engrg. Corp.	64
Builders-Providence	E. M. Freydt Associates	28	Parsons Foundry & Mach. Co.	T. N. Thompson, Advtg.	64
Bushman Co., E. W.		15	Paudler Co.	Walker & Downing	4th Cover
Cambridge Instrument Co.	Buchen Co.	39	Photoswitch, Inc.	C. L. Rumrill & Co.	11
Cash Co., A. W.	Kennedy & Co.	59	Pioneer Rubber Co.	Bennett, Walther & Menadier, Inc.	31
Chain Belt Co.	Wm. S. Lawson, Advtg.	63	Porter Co., Inc., H. K.	Carr Lizzett, Advtg.	62
Chicago Eye Shield Co.	Paul Teas, Inc.	7	Powers Regulate Co.	Sykes Advertising Co.	27
Clark Tractor Co. & Engineering Co.	Brown Advertising	67	Premier Mill Corp.	Earle Ludein, Inc.	8
Cleveland Worm & Gear Co.	A. B. Wilder, Inc.	34	Pressed Steel Tank Co.	Louis M. Cottin, Inc.	81
Colonial Insulator Co.	Everett L. Bowers, Inc.	59	Pulmosan Safety Equipment Co.	Buchen Co.	9
Connelly Iron Sponge & Governor Co.	Michel-Cather, Inc.	69	Pulverizing Machinery Co.	Thoma & Gill	20
Consolidated Pkg'g Machy. Co.	C. L. Rumrill & Co.	37	Quincy Compressor Co.	Louis M. Cottin, Inc.	76
Cooper Alloy Foundry Co.		28	Read Machinery Co.	L. W. Ramsey Co.	42
Corning Glass Works	Griswold-Eshleman	58	Reliance Electric & Eng. Co.	J. G. Kuester Associates	2
Corning Glass Works	Louis M. Cottin, Inc.	58	Republic Steel Corp.	C. A. Reece	66
Darling Valve & Mfg. Co.	Russell T. Gray, Inc.	58	Richmond Mfg. Co.	Meldrum & Fewsmith	56
Davis Emergency Equipment Co.		63	Ridee Tool Co.	Carr Lizzett, Advtg.	61
Davis Regulator Co.	Strauchen & McKim	66	Robbins & Myers, Inc.	Erwin, Wassey & Co.	55
Day Co., J. H.	Harold C. Walker Co.	46	Robbins Conveying Belt Co.	Walter J. Gallagher, Advtg.	68
Dayton Safety Ladder Co.	Kirkgasser-Drew	34	Robinson Mfg. Co.	Alexander Ross Agency	66
Deputch Oven Co.		33	Ross Engineering Corp., J. O.	McLain Organization	76
Diamond Chain & Mfg. Co.	Klau-Van Pietersom-Dunlap	65	R-S Products Co.	Lee Donnelly Co.	70
Dietz Co., Harry W.	Grover J. Johnson	60	Sanyment Products Co.	Kreicker & Meloan	24
Dixie Machinery Co.	Orden Advertising	62	Sargent & Co., E. H.	Evans Associates	23
Dodge Mfg. Co.	Ankeny Advertising	71	Schaub Engrg. Co., Fred H.	R. J. Skala Co.	46
Draco Corp.	Nedham, Louis & Brorby	20	Screw Conveyor Corp.	Evans Associates	41
Durametallic Corp.	Wilson & Haiht	75	Service Caster & Truck Co.	Spooner & Kreigel	41
Duriron Company	Geo. Homer Martin, Advtg.	42	Shirer & Co., T.	Simplicity Engineering Co.	13
Eagle-Picher Lead Co.	Coleman Todd & Associates	22	Sly Mfg. Co., W. W.	Bayless-Kerr Co.	46
Eastern Engineering Co.	Peterson & Kempner	40	South Bend Lathe Works	Lampert, Fox & Co.	47
Eclipse Air Brush Co.	Paul Teas, Inc.	43	Sparkler Mfg. Co.	H. A. Hooker Agency	47
Edmont Mfg. Co.	J. W. Steverling	17	Sperry Co., D. R.	A. B. Wilder, Inc.	80
Elliott Co.	Lester Harrison Associates	71	Spray Engineering Co.	Spencer W. Curtiss	50
Ellwell-Parker Electric Co.	Henri, Hurst & McDonald, Inc.	43	Spraying Systems Co.	Sprout, Waldron & Co.	50
End Engineering Co.	Paul Teas, Inc.	14	Stahmer Shoe Co., F. J.	L. W. Ramsey Co.	50
Exact Weight Scale Co.	Van Auker-Ragland, Inc.	40	Standard Electric Time Co.	Melvin F. Hall Adv. Agency	27
Excutoine, Inc.	Alan B. Sanger, Advtg.	22	Sea-Warm Electric Co.	E. D. Wolaver Agency	50
Fairbanks, Morse & Co.	David M. Gold, Advtg.	56	Stearns Magnetic Mfg. Co.	Franklin Industrial Service	14
Faval Corporation	Renner Advertisers	74	Stebbins Engineering Co.	Evans Associates	41
Federal Foundry Supply Co.	Foster & Davies	40	Stephens-Adamson Mfg. Co.	McLain Organization	49, 54
Felt Products Co.	Harry P. Bridge Co.	82	Stokes Machine Co., F. J.	Griswold-Eshleman	54
Filter Media Corp.	Swafford & Koehl	78	Surface Combustion Corp.	Fensholt Co.	78
First Machinery Corp.	Alan B. Sanger, Advtg.	29	Swenson Evaporator Co.	Synton Company	74
Flash-Scane Corp.	Harry Atkinson, Inc.	80	Taber Instrument Co.	Horace Laney, Advtg.	30
Fleur-O-Lier Manufacturers	Horton-Noyes Co.	27	Taber Pump Co.	Tyler Kay Co., Inc.	10
Flexrock Company	Van Auker-Ragland, Inc.	47	Taylor & Co., W. A.	Emery Advertising Co.	33
Fort Shelby Hotel	Woolley & Hunter	53	Tenney Engineering, Inc.	Gotham Advertising Co.	57
Four Engineering Co.	Buchen Co.	39	Toledo Scale Co.	Beeson-Faller Reichert, Inc.	14
Fountain Square Hotel	Basford Co., G. M.	23, 28, 48	Tri-Clover Machine Co.	Howard Swink Agency	72
Foxboro Company	Barten, Barton, Durstine & Osborn	45	Triangle Package Machy. Co.	Russell T. Gray, Inc.	62
Gau Mfg. Co.	Basford Co., G. M.	52	Tri-Clover Machine Co.	Arthur Meyerhoff & Co.	79
Gates Rubber Co.	O. S. Tyson & Co.	54	Union Special Machine Co.	Russell T. Gray, Inc.	80
General Box Co.	Geo. C. Taylor	67	Universal Road Machinery Co.	Ralph Gross Advtg.	21
General Electric Apparatus Div.	Moore & Associates	58	Walker-Wallace, Inc.	Tyler Kay Co., Inc.	69
General Electric, Lamp Div.	Commercial Advtg. Agency	73	Wakefield Brass Co., F. W.	Foster & Davies	74
General Electric, Motors Div.	W. N. Hudson, Advtg.	30	Weatherhead Co.	Meermans, Inc.	78
Gifford-Wood Co.	Basford Co., G. M.	22	West Bend Equip. Corp.	Morrison Advertising Agency	82
Goodall Rubber Co.	Channing L. Bete Co.	60	Western Felt Works	McCarty Company	79
Green Mfg. Co.	Campbell & Reynolds	36	Western Precipitation Co.	Basford Co., G. M.	26
Hardinge Company		59	Weston Elec'l Instrument Co.	Merchandising Advertisers	33
Harper Co., H. M.		51, 62	Wheelco Instruments Co.	Sutherland-Abbott	79
H-B Instrument Co.	Kreicker & Meloan	51, 62	Whitney Chain & Mfg. Co.	Peterson & Kempner	31
Hendrick Mfg. Co.	Henry T. Bourne & Associates	51	Wiegand Co., Edw. L.	Landshaft, Inc.	72
Hunt Machine Co., Rodney	Eugene A. Holland, Advtg.	78	Wilson Chemical Feeders Co.	Wyo-Lite Insulations Products Co.	21
Huppert, K. H.	Frank D. Webb Co.	48	X-Pando Corp.	Louis M. Cottin, Inc.	20
Ingersoll-Rand Co.	Rogers & Smith	60	Yarnall-Waring Co.	McLain Organization	47
Ingersoll Steel & Disc	Parker Advertising Co.	70			
International Engineering Co.	Paul C. Bowman	17			
James Mfg. Co., D. O.	Sykes Advertising Agency	52			
Jeffrey Mfg. Co.	Kreicker & Meloan	51, 62			
Jesop Steel Co.	Henry T. Bourne & Associates	51			
Johnson Corp.	Eugene A. Holland, Advtg.	78			
Johnson & Jennings Co.	Frank D. Webb Co.	48			
Johnstone Engrg. & Mach. Co.	Rogers & Smith	30			
Kemp Co., C. M.					
Kewanee Mfg. Co.					

## Here's What We Mean By COMPLETE Dispersion when you use a **PREMIER COLLOID MILL**



With the Premier Colloid Mill, you can break down liquids into such fine dispersion as to multiply the number of contact surfaces a thousandfold. This increased interfacial contact speeds up chemical reactions, in some cases making them instantaneous. Manufacturers find that this reduces costs and increases profits in washing, extracting, aging, decolorizing or deodorizing processes.

In those processes wherein chemical reactions begin as soon as the formula is compounded, the Premier Mill disperses the liquid in such fine particles that it subjects minute sub-divisions of the liquid to immediate contact with each other. By this means, the aging of perfumes, for example, is greatly accelerated. The application of the principles in other industries through the use of mechanical colloid chemistry may have revolutionary effects on quality, production and profit.

Similarly, the Premier Mill can disperse solids suspended in liquids to almost any degree desired. Solids may be dispersed to their original formative particle size. When dispersion is attained, the use of dispersing agents keeps the particles from coalescing. The top two of the photo-micrographs at the left illustrate a standard emulsion before and after being processed in a Premier Colloid Mill; the lower two give the before and after picture of the processing of pigments in a Premier Colloid Mill.

## WHY PREMIER COLLOID MILLS DELIVER SUPERIOR PERFORMANCE

- **SIMPLE OPERATION**—One moving part. Rotor has no teeth or complicating mechanisms.
- **EASY ADJUSTMENT**—The micrometer adjusting ring makes possible adjustments from .001" or less to .125".
- **ECONOMY**—Premier Colloid Mills are easy to clean. They operate continuously and are made for large output with low power consumption and lowered labor cost.
- **CONTROLLED QUALITY**—All Premier Mills provide compulsory uniform treatment of every particle of material being processed. Every Premier Mill has positive, dependable adjustment for absolute control of quality and production.



a **FREE** copy of a new booklet, IE 8, "Better Products—More Profitably Processed," will be sent upon request.



## PREMIER MILL CORPORATION

218 GENESSEE STREET, GENEVA, NEW YORK

New York Sales Office: 110 E. 42 Street, New York, N. Y.

Premier  
Colloid  
Mills

When inquiring specify CEP5878 — see information request blank, pgs. 2-3



**FOR DIFFICULT MAGNETIC  
SEPARATION PROBLEMS  
SPECIFY**

**Stearns  
MAGNETIC**

The remarkable efficiency of STEARNS MAGNETIC TYPE "K" Series Gravity Induction Magnetic Separators is due to their ability to provide an intense magnetic field . . . lower power input . . . correspondingly low power consumption . . . flexibly arranged to allow one or more stages of magnetic separation, according to requirements . . . positive magnetic separation of reluctant material heretofore considered unresponsive to such separation.

This is only one of the many exacting magnetic separations that today are simply and successfully accomplished by STEARNS Magnetic better engineered magnetic separation equipment.

Make use of our enlarged and complete laboratory for tests of your materials. Ask for details.



STEARNS Type "K" Series Magnetic Separators are described in Bulletin 701. Write for it.

SEPARATORS — DRUMS — ROLLS  
CLUTCHES — BRAKES — SPECIAL  
MAGNETS

**Stearns**  
**MAGNETIC MFG. CO.**  
642 S. 28th St. Milwaukee, Wis.

When inquiring specify CEP5879 — see information request blank, pgs. 2-3



## TOUGH OVERLAY for Worn-Out Wood Floors

Add years of useful service and improve the efficiency of rough, splintered wood floors with an overlay of durable RUGGEDWEAR RESURFACER. Though light in weight, your new floor will have a smooth, tough, fire-resistant surface. Its resilience will withstand the stress and strain of any vibration. RUGGEDWEAR may also be used for repairing holes, cracks and ruts in concrete floors to a solid feather edge. Easily applied . . . you mix the material and trowel it on. Dries fast.

Request Valuable Descriptive  
Folder on Tough Floors

MAKE THE TEST

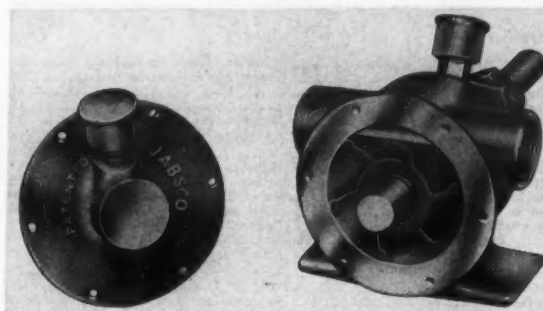
**FLEXROCK COMPANY**  
2311 MANNING ST., PHILADELPHIA, PA.

Please send me complete RUGGEDWEAR information . . . details of FREE TRIAL OFFER — no obligation.

Name \_\_\_\_\_  
Company \_\_\_\_\_  
Address \_\_\_\_\_

When inquiring specify CEP5880 — see information request blank, pgs. 2-3

## PRODUCTION



PUMP HAS ONLY ONE MOVING PART . . . synthetic rubber impeller which rotates on concentric shaft

## Gearless, Self-Priming Type Pump Has Synthetic Rubber Impeller

*Designed to pump thick or thin liquids without priming each time it is started; operates in either direction, impeller easily replaced*

**Uses**—Designed for a wide variety of service in pumping either thick or thin liquids. Practical applications, in transferring liquids and circulating and in pumping coolants. Also for air conditioning units. Used as food pump. Adaptable for service where pressure requirements are low. **Features**—Designed to operate without priming each time pump is started. By merely reversing the motor, the pump will operate in either direction. Pump can be mounted at any angle and operated clockwise or counter clockwise as may be required.

**Description**—Extremely simple in construction and operation. This pump uses a special, tough, wear resisting synthetic rubber (Neoprene) impeller, which fits snugly inside pump housing and rotates on a concentric shaft. This construction permits a certain amount of solids to pass through the pump without injury to the working parts. The impeller is the only moving part. No metal to metal action other than the single bearing. Except for the impeller construction is of high grade bronze. No adjustments which contributes to efficiency. Design and construction guard against corrosion and sticking of parts. Impeller can be removed and replaced in a few minutes by simply removing a face plate. Pumps are offered in four models of 1/4, 3/8, 1/2 and 3/4 in. pipe sizes with corresponding capacity ranges of 2.5 to 5.2, 2.6 to 6.7, 4.9 to 11.6 and 12.5 to 22 gallons per minute.

JABSCO PUMP CO., Dept. CEP, 8304 Wilshire Blvd., Beverly Hills, Cal.

When inquiring specify CEP5881 — see information request blank, pgs. 2-3

**DESCRIPTIONS** of new products and new literature appearing in this issue are prepared from material submitted by manufacturers. While every precaution is taken, the publishers cannot guarantee the validity of claims. However the publishers welcome your criticisms of any apparent inaccuracies.



## Immediate Delivery

Immediate delivery on grinders "that will handle heavy materials, that would tear most grinders to pieces and handle jobs impossible with others."

From frozen eggs for dehydrating, to heavy clays, fibrous products whether dry, wet or gummy there's a W-W Grinder to do the job.

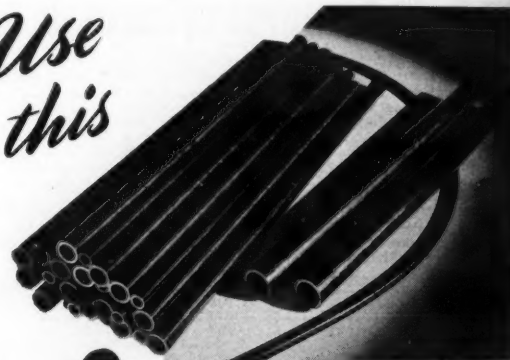
## Write Today

If you have a grinding problem write, phone or wire today. Give full details of your operation and problem and our engineers will cooperate 100% in meeting your needs. Remember — no delayed deliveries. Write — at once.

**W-W**  
**Grinder Corporation**  
Wichita Kansas

When inquiring specify CEP5882 — see information request blank, pgs. 2-3

Use  
this



## SARAN\* PIPE

**For Handling Corrosive Chemicals**

Saran offers ample tensile strength, resistance to pressure, abrasion, heat (to 175°), acids and alkalis. Offers actual advantages for many jobs formerly using hard rubber, stainless steel and special chemical pipe.

Our engineers have worked with Dow technicians on Saran applications—can tell you quickly how Saran meets your requirements. Available in sizes 1/2" to 2". Easily welded in 1 minute. Write us today.

**ACADIA SYNTHETIC PRODUCTS DIVISION**  
WESTERN FELT WORKS  
4039 Ogden Ave. Chicago, Illinois  
Branch Offices in Principal Cities

Tubing  
Fittings  
Sheets  
Compression  
Molded  
Parts



When inquiring specify CEP5883 — see information request blank, pgs. 2-3



## PRODUCT DIRECTORY (Continued from page 2)

Packing, Metallic Pump	62
Paint, Chemical-proof	23
Pallet, Wood & Steel	47
Paper, Wet Strength	71
pH, Colorimetric Testing Set	25
pH Control	26
Pipe, Flexible Rubber	67
Pipe, Synthetic	82
Pipe Joint Compound	20
Pipe Tools	38, 61
Plastic Parts Made to Order	38
Plasticizer	21
Plastics, Laminated	19
Porcelain, Chemical	16, 67
Power Plant Equipment	43
Precipitator, Electrical	79
Processing Equipment	8, 14, 56, 68, 69, 4th Cover
Protein-Determination	33
Pulverizer	76
Pumps	10, 15, 37, 38, 40, 41, 50, 55, 63, 64, 68, 73, 74, 75, 76, 79, 80, 82
Pumps, Vacuum	47, 49, 76
Reagent Heads, Transparent	68
Recorders, Temperature	27
Reflector, Fluorescent Wood	63
Regulator, Pressure	58
Relay, Mercury	33
Resin, VMCH Vinylite	19
Respirators	59
Rheostats	24, 31
Rolls	60
Rubber Conservation Book	35
Safety, Women's Manual	42
Sand Blast Machine	42
Scales	14, 17, 43
Screens, Vibrating	13, 40, 57, 60, 63
Sealer, Carton	13, 62
Separator, Magnetic	60, 82
Separator, Water-Oil	62
Separators, Centrifugal Air	70
Sewing Head, Heavy-Duty	59
Sheaves, Adjustable Pitch	35
Shelving, Wood	58
Shoes, Wood Sole Safety	50
Sifters	14, 36, 38, 44
Skids, Material Storage	73
Skin Creams & Liquids	21
Slitters & Rewinders	78
Solvents, Terpene	18
Spectrophotometer	28
Speed Reducers, Worm Gear	7
Spray, Extinguisher	74
Sprocket Wheels	52
Starter Acceleration Control	54
Starters, Automatic	29
Steel, Care of Stainless	65
Steel, Manganese	36
Steel, Stainless	56
Steel, Stainless-Clad	52, 60
Steels, Handbook on Special	42
Stickers, Non-Moistening	18
Sills, Solvent Recovery	79
Sills, Water	26
Stricher, Carton	51
Strainer, Cutting Coolant	54
Strainers, Pumping	36
Strapping, Steel	41
Strautophere Chamber	51
Strippers, Making Die	11
Sulphur, No-Drip Tapers	23
Sweeping Machine	44
Swirls, Air and Oil Line	64
Synthetic Rubber, Book on	19
Tanks and Vats, Redwood	49
Tapers, No-Drip Sulphur	23
Tester, Moisture	34
Tester, Pressure Gauge	31
Thermocouples	6
Thermometers	30, 32
Thickener	41
Thread Cutting, Lathe	38
Timers	25, 27, 32
Toilet Compartments, All-wood	70
Traps, Steam	9, 42, 47
Truck, Crane & Carrier	17, 79
Trucks, Data on Power	34
Trucks, Industrial	4, 3, 10, 43, 63, 72
Trucks, Lift	4, 5, 12, 37, 39, 75
Trucks, Platform	41, 80
Tubing, Heat Transfer	25
V-Belts	13, 53, 65
Valves	15, 22, 29, 38, 40, 58, 69, 71, 76
Ventilator-Exhauster	14
Vibrating Equipment	16
Voltmeter, Portable Crest	31
Washer, Magnetic Log	60
Water Purification Units	68
Water Test Sets	24
Waterproofing, Exterior	20
Welder, A.C.	75
Welding, Arc Control	13
Welding, Instructions	41
Welding, Low Temperature	36
Wheel, Resinoid	62
Winches, Hand & Motor	41
Wire Cloth	36, 48
Wiring Materials	40
Zinc-Oxide, Recovery of	8

For more information on product at right, specify CEP 5884  
... see information request blank between pages 2-3.

# "LIGHTNIN" PORTABLE MIXERS

Always ready for an emergency job

Electrically driven mixers in both direct and gear drive from 1/2 H.P. upward. All metals and types of mixers.

New line of gear reduction mixers in various sizes and speeds.

## MECHANICAL FEATURES

**Mixer Housings:** Specially sealed ball bearing fitted in lower end takes load off motor. No oil or grease from this source can ever leak down into the mix. In the gear drive models, all gears are "sealed in grease," an important factor in increasing the working life of these heavy duty models.

**Shafts:** We give each shaft special treatment so that it comes to you accurate and true, an important point in eliminating whipping.

**Propellers:** Accurately ground, polished and balanced. Pitch and form carefully designed for maximum mixing efficiency with minimum expenditure of energy. Finished in all machineable metals—also rubber or lead covered.

**Tube and Chucks:** Two piece positive taper chuck locks shaft as solid reinforced member and permits maximum useful shaft extension. Sanitary, easy to clean construction.

**Clamp:** Bronze, universally adjustable clamp permits a great number of mixing actions in addition to the patented "LIGHTNIN" double mixing action.

A "LIGHTNIN" Portable Mixer can be used on any tank, drum or other vessel. Thus for a reasonable investment in one of the many "LIGHTNIN" portable models you can convert any container in your plant into a complete mixing unit, and that same mixer will serve for several containers. Under present difficulties in obtaining equipment such as tanks and other vessels, this portable feature, plus efficiency and economy of operation, is the solution to many mixing problems.

"LIGHTNIN" Portables are being used throughout the process industries for:

**BLENDING  
MIXING**

**DISSOLVING**

**SUSPENDING SOLIDS  
AGITATING**

**HEAT EXCHANGE  
IMPROVEMENT**

**CATALYZING  
AND OTHER  
PROCESSING**

They are available in a wide range of sizes and models for use on any liquid, semi-fluid or suspension up to 4,000 centipoise viscosity. For large emergency jobs several portables can be used in place of one large mixing unit. "LIGHTNIN" Mixers can be made of special metals or with coatings to meet all chemical conditions.

Both electric and air driven models (either direct or gear driven) are available in a full range of sizes.

## AIR DRIVEN MIXERS

We believe that *only* a company making both air driven and electrically driven mixers can tell you the whole story.

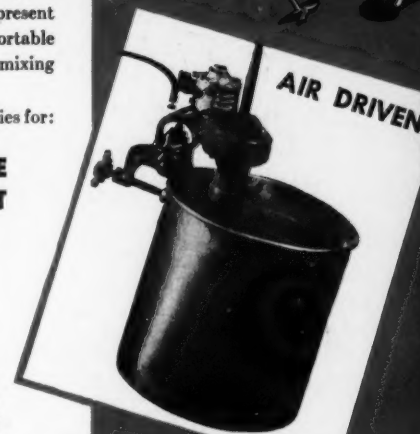
**FIRST COST:** An air driven mixer costs about the same or slightly less than an electrically driven mixer with semi-enclosed motor. If comparison is made between air mixer and electric mixer with explosion proof motor, the first cost is much less, unless the cost of an adequate compressor has also to be figured in.

**OPERATING COST:** Operating costs are all in favor of the electric mixer since the cost of producing compressed air is high. *The Ratio of operating cost may run as high as 30 to 1.* Because of this factor we have restricted this group to the smaller sizes.

**OPERATING ADVANTAGES:** An air motor cannot be burned out by overloading. It will give variable speed, but once set, it will also vary in speed as mixing load as well as air pressure varies, which is an advantage in some cases, but not wanted in others. The air mixer is lighter than the electric mixer.

### NOTE ON PRIORITIES:

All offerings and specifications are subject to such government regulations as may be announced from time to time in connection with critical materials. Immediate shipment on many models, particularly portable models, can be made.



**MIXING EQUIPMENT COMPANY, INC.**  
1083 Garson Ave., Rochester, N. Y.

Please send me:

..... Catalog B-68—Top Entering Mixers

..... Catalog B-69—Air Driven Mixers

..... Catalog B-65—Portable (Clamp-on) Mixers

..... Catalog B-66—Side Entering Mixers

..... Catalog B-67—Laboratory Mixers

..... Mi-11—MIXING OPERATIONS DATA SHEET: The basis for a time-saving recommendation

..... Complete Catalog Binder for Executives and Engineers in Authority

Name.....

Company.....

Address.....

MIXING EQUIPMENT CO., Inc.





# PATTERSON EQUIPMENT

Dependably  
Serving the  
**CHEMICAL and  
PROCESSING  
INDUSTRIES**

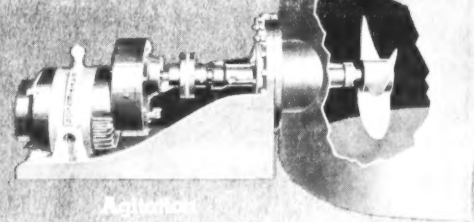
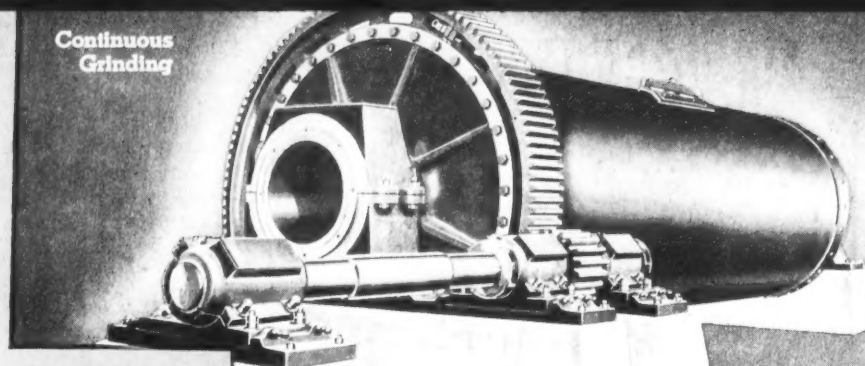
with utmost  
**PERFORM-ABILITY**  
and **ENDURANCE**

*Richard L. Caspary*  
President

**THE PATTERSON FOUNDRY  
AND MACHINE CO.**

EAST LIVERPOOL, OHIO, U. S. A.

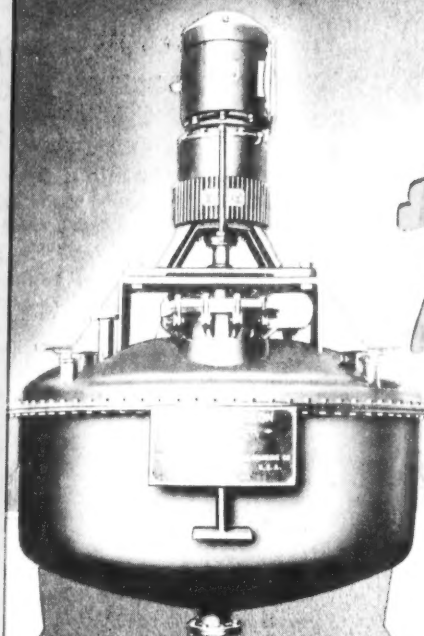
Continuous  
Grinding



Agitation



Mixing

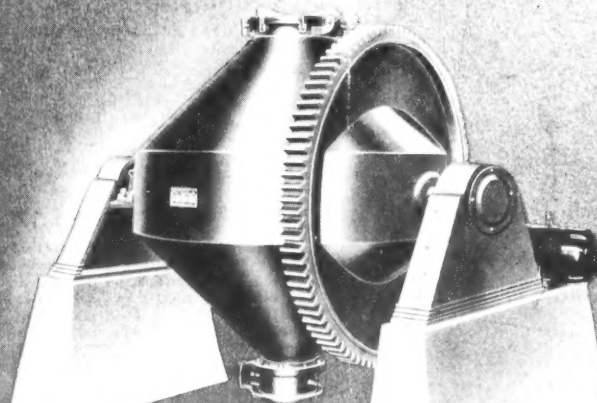


Dissolving

**TOOLS  
FOR THE  
JOB!**



Processing



Dry Blending

